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BENJAMIN DRAKE.

A

TREATISE

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ON THE

VENEREAL DISEASE.

BY JOHN HUNTER.

WITH AN

INTRODUCTION AND COMMENTARY,

BY JOSEPH ADAMS, M. D.

AUTHOR OF OBSERVATIONS ON MORBID POISONS, &C.

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FIRST AMERICAN EDITION.

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TO

THE STUDENTS OF MEDICINE

IN THE

UNIVERSITY OF PENNSYLVANIA,

INCITED BY WHOSE RECOMMENDATIONS, AND RELYING UPON WHOSE ENCOURAGEMENT,

THIS WORK HAS BEEN REPRINTED,

THE PUBLISHER,

WITH EVERY FEELING OF RESPECT AND GRATITUDE,

BEGS PERMISSION TO DEDICATE IT.

J. WEBSTER.

PREFACE

TO THE

FIRST AMERICAN EDITION.

THE present edition of John Hunter's Treatise on the Venereal Disease, has been rendered necessary by the permanent demand for this book among the medical profession, who are well apprized of its value. The disease itself, may experience frequent variations in its type; and the practice applied to it, may change with the changing fashion of medical opinions; but a book which contains so full, so complete, so lucid, and so satisfactory an analysis of the disease, in its origin, and in the varieties of appearance it assumes, can never be out of date, while just notions of the physiology of the human frame, and of the pathology of its morbid affections, shall constitute part of a physician's study.

Previous to Mr. John Hunter's Treatise on this subject, the profession possessed none, which, by just views of the disease itself, led to rational practice upon just principles. Before this work appeared, the prescriptions for Syphilis, though often successful, were empirical; they were prescribed on the authority of routine, rather than on profound views of the nature of the disorder. It was reserved for John Hunter to lay the foundations of sound

and discriminating practice, by investigations which time has only served to confirm. Indeed, the English school of physiology may be said to have started into eminence with this great man; and his views of the animal system, whether in its sane, or its morbid state, have stood the test of investigation and experience from his time to the present.

While the disease in question shall continue to rank among the prominent evils to which the human race is liable, this Treatise on the subject, will remain an indispensable source of information to physicians who wish to understand the nature of the poison they are called upon to expel. No publication previous to it, nor indeed did all of them together, throw equal light on the subject with Mr. Hunter's work; nor has any subsequent publication attempted to supersede it. Doubts have arisen, and investigations have taken place in consequence of them, owing to the occasional obscurity of manner adopted by the author; who seems to have taken for granted that the public were as fully apprized of the physiological views to which he sometimes indirectly alludes, as the pupils who benefitted by his instructions. The want of a commentator, therefore, has been felt, and called for. Of those who have attempted this task, none have been so well qualified as Dr. Adams, whose reputation as a medical writer is of the first rank, and who had sufficient opportunities of entering fully into all Mr. John Hunter's doctrines and ideas. The Treatise, elucidated with the notes and commentaries of this able physician, is likely to continue, as it now is, the stock book of the profession on the

disease of which it treats. The character of the original work has been so long and so firmly established, and the notes of Dr. Adams so well received in the medical world, that there is no doubt of the propriety of a new edition to supply the demands of the profession. As every care has been taken to render the present edition neat, accurate, and reasonable, the publisher hopes it will meet with the encouragement of gentlemen engaged in the study and practice of medicine, whose approbation he has faithfully endeavoured on the present occasion to earn.

The reputation of the author, and of his commentator, is such, as to dispense with the necessity of any additional notes to a work so full and so perfect in itself. It is therefore published verbatim from the London copy of Dr. Adams's edition.

JAMES WEBSTER.

TO THE MEMORY

OF THAT

GUIDE, PHILOSOPHER, AND FRIEND,

WHO FIRST LED

HIS COMMENTATOR

TO

REASON ON SUBJECTS OF PATHOLOGY,

THESE PAGES ARE CONSECRATED,

WITH

SENTIMENTS OF GRATITUDE,

WHICH

TIME CAN NEVER DIMINISH.

COMMENTATOR'S PREFACE.

WHEN we consider, that, before Sydenham wrote, there existed no systematic description of gout or small-pox, we shall be less surprised, that, before Mr. Hunter, only the more obvious symptoms and methods of cure had been noticed in a disease, which for three centuries had engaged the pens of the most celebrated medical writers. But Sydenham, though so accurate in his description of facts, accounted for them by causes which never existed, and the admission of which by others proved subversive of his admirable practice. Mr. Hunter has reduced to order a series of facts supposed to be reducible to no laws; shewn the source of former errors, the cause of every apparent irregularity, and, in fixing the true character of one disease, has introduced us to others never before suspected to exist. His practice has, therefore, become popular, in proportion as his theory is understood.

It cannot be wondered, if doctrines entirely new should require a language in many respects new also. What appeared, however, a new language was, for the most part, only the introduction of precise terms, instead of figurative expressions. If it should seem strange, that any difficulty should attend describing a plain matter of fact, or in understanding such a description, let us recollect, that in every art or science the great difficulty is to delineate nature, and that but few adepts are alive to the nicer and most accurate parts of such delineations.

Mr. Hunter found himself so frequently ill understood, that at last he was prevailed on to believe there must be some incapacity about him in the use of common language. That he was totally unacquainted with those ornaments in writing or speaking which serve to illustrate a subject, or to awaken the attention, cannot be questioned; but his language was always as perspicuous as might be expected from the clearness of his conceptions. This language, however, was not popular; and, I believe, if we except his posthumous works, he offered nothing to the world, till it had been revised by his friends.

The Treatise on the Venereal Disease was the work which he was particularly anxious should come before the public in the most perfect form: "I am resolved," said he to his Commentator, "that it shall not be a mere bookseller's job, every subsequent edition rendering the former useless. The truth of the doctrines I have proved so long as to reduce them to conviction; and, in order to render the language intelligible, I meet a committee of three gentlemen, to whose correction every page is submitted." As all this was very generally known, never were expectations raised higher of any work, nor in some respects more generally disappointed.

To compliment Mr. Hunter's coadjutors would be superfluous. Two of them being authors, have convinced the world of their abilities in producing original compositions. Of the third, it is enough to say, he was Dr. David Pitcairn. But these gentlemen, accustomed to the best company, that is, to each other, and to a circle as enlightened as themselves, were not aware of the difficulties that attended their undertaking. To make Mr. Hunter intelligible by the short introduction prefixed to this work, never could have entered the conception of men who were not previously accustomed to converse with him. It may

perhaps be fair to add, that, being all of them physicians, they were less acquainted with the erroneous opinions and practices, and even with the technical language which had prevailed before Mr. Hunter taught.

Though what has been said may be a sufficient apology for the commentaries offered in this edition, yet it did not seem to authorize any alteration in the text. The value of the work will infinitely more than repay the labour of studying it with all the application it requires. The object of the Commentator is only to direct the student, and to relieve him occasionally in his progress. With these views, the following hints are premised:—

The first business of those who are not familiar with Mr. Hunter's opinions will, of course, be to study the introduction. This should be done with a diligence proportionate to the difficulties that may be found in admitting or even comprehending the various propositions and their proofs. These difficulties, in the present day, are very much lessened; Mr. Hunter's doctrines having become more popular and better understood from the time that they were first communicated in his conversations, his lectures, and his writings.

I would advise every medical student to read the whole of the book in the order in which it stands. He will find it the best introduction to pathological reasoning that his closet can afford him. Those chapters, in the Third Part, which relate to Stricture and other diseases in the urinary passages, may perhaps fatigue his attention without adding sufficiently to his knowledge. It cannot be expected that he should retain the whole in his memory, and the remarks being chiefly practical, must be referred to as often as intricate cases occur. If therefore these chapters are read in their order, the student must not be angry with his Author or himself, if he cannot keep up

his attention to every minutia. Whenever he has an intricate case, in his own practice, he will not accuse Mr. Hunter of prolixity.

Another caution, of the same kind, is absolutely necessary. The student will, on some occasion, find an obscurity, from an anticipation of terms which cannot be well understood, till he arrives at the doctrines to which they relate. This is easily accounted for from the manner in which the work was compiled. I have endeavoured, as often as possible, to relieve him of these difficulties, but cannot easily ascertain whether some parts of the work will be completely comprehended without a second perusal; at least, of those passages which were found obscure in the first.

Such is the manner which I would recommend the *student* to pursue in the perusal of this work.

Those who have seen something of practice, and wish to acquire that systematic knowledge of the disease, which may enable them to act with decision under every difficulty, should study principally those sections in which the doctrine is contained. Most of them are illustrated with cases; and I shall be mistaken, if the new light which will dawn upon the reader in every passage should not lead him to a careful perusal of the whole work.

It is probable, that most gentlemen engaged in extensive practice are already provided with the work as Mr. Hunter left it. The present edition can only be useful to such of them as, from the multiplicity of their engagements, or from the difficulty of encountering early opinions, have not had leisure or patience to acquire a knowledge of Mr. Hunter's doctrines. I would advise all such to study Mr. Hunter clinically, that is, in all cases that come under their care, to compare the progress of the disease and cure with the descriptions given by Mr.

Hunter. This will render every subject interesting to him; and, if he acquires a decision in diagnosis or practice, it will not be the effect of bold guessing, but of well-directed reasoning.

Should what has been added by the Commentator be found serviceable to either class of readers, his labour will be amply repaid.

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INTRODUCTION.

TWO motives have induced me to publish the following treatise. In the first place, I am not without hope, that several new observations contained in it will be deemed worthy of the public attention; in the next place, I am desirous to have an opportunity of shewing from whom some opinions, that have made their way into the medical world, originated.

But, as much of the theory, which will often be referred to in the course of this work, is peculiar to myself, it seems necessary to give an introductory explanation of some parts of it, in order that the terms used may be the more intelligible to the reader.

—

COMMENTARY.

Mr. Hunter, like all those who have improved medicine, has been more unfortunate than other philosophers in the manner in which his theories have made their way into the world, and in the persons who have attempted to undervalue them. When Sir Isaac Newton's opinions were objected to by men, however inferior to himself, the arguments adduced were not only connected with inquiries in which all philosophers are engaged, but the proofs were reducible to demonstrations which are the perpetual objects of experiment, or to problems, the mode of solving which was familiar to such as ventured to engage in the controversy. Every adversary too was under some necessity of at least comprehending the meaning of the author, and the readers were very much confined to those who were able to judge. The objects of the dispute were permanent in their appearance, and the foundation of the reasoning was laid on laws which never vary.

But in reducing disease to certain laws, we must catch the transient picture as it passes. In explaining ourselves, we must refer not to the common, but the altered appearance of nature, and to alterations varying in shades not only according to seasons and unknown combinations of the atmosphere, but according to the variety of constitutions in different subjects, and even in different conditions of the same.

It is not easy to rob a Newton of his discoveries. To be known, they must not only be published, but the series of arguments leading

to them must appear before they can be received. They cannot float on the surface in such a manner that parts may be collected, and become the property of others, or become common property, before any one is aware to whom he is indebted for them.

Such is not the case with any pathological fact, all of which must be ascertained by a vast number of cases, each of which will vary in certain points, though not in those which are to be considered as the laws of a disease. Thus whilst a Newton is solving his problem in his closet, a Sydenham must be tracing at every bed-side the general uniformity of certain appearances at certain stages of a disease, the occasional aberration from those appearances, and the signs which may lead to expect such aberrations. Whilst the first may refer to a single phenomenon open to universal inspection, the other can only refer to facts which, from incapacity or indolence, are overlooked by those who alone have the opportunity of tracing them, and whose duty should lead to no other inquiry. But to these an easier road for temporary fame and immediate emolument too often occurs. Such parts of a discovery as are more readily comprehended are conveyed in easy language to the public, or to the younger branch of the profession; every difficulty is passed over, all the intricacies of research are given up, and a few solitary facts, which could only be first known by tracing a series of laws, are spoken of without any reference to the inventor. If Mr. Hunter was forced to submit to this injustice, he suffered it in common with Sydenham. If he complained without knowing how to redress himself, his friends may plead the same example.

When we consider that the *whole* of the theory is peculiarly Mr. Hunter's, it will at once occur, that so short an introduction is very inadequate. To Mr. Hunter, and those about him, particularly those who corrected his work, the theory might be so familiar as to render them incompetent judges of difficulties which others may feel in turning their minds to a new mode of reasoning.

SECTION I.

Of Sympathy.

I DIVIDE sympathy into two kinds; *universal*, and *partial*.

Universal sympathy is an affection wherein the whole constitution sympathizes with some sensation or action. Partial sympathy is an affection wherein one or more distinct parts sympathize with some local sensation or action.

The universal sympathies are different in different diseases; but those that occur in the venereal disease are principally two: the symptomatic fever and the hectic fever. The symptomatic fever is an immediate effect of some local injury, and seldom takes place in the venereal disease in any great degree under any of its forms, except in the case of a swelled testicle, which is itself an instance of a partial sympathy; the symptomatic fever here, therefore, is an universal sympathy arising from a partial one. The hectic fever is an universal sympathy with a local disease, which the constitution is not able to overcome. This takes place oftener and in a greater degree in the lues venerea than in any other form of the disease.

I divide partial sympathy into three kinds: the *remote*, the *contiguous*, and the *continuous*. The remote is, where there appears to be no visible connection of parts from whence we can account for such effects, as in the case of pain of the shoulder in an inflammation of the liver. The contiguous is, that which appears to have no other connection than what arises from vicinity or contact of separate parts; an instance of which we have in the stomach and intestines sympathizing with the integuments of the abdomen. The continuous is, where there is no interruption of parts, and the sympathy runs along from the irritating point, as from a centre, which is the most common of all sympathies. We have an example of this in the spreading of inflammation.

Mr. Hunter, in his divisions of sympathy, has called each an affection, arising generally or partially from some local *sensation* or *action*. In his illustrations he takes no notice of any sympathies excepting from *actions*. The sympathies from *sensation* are, partial, when weeping or sighing is excited by a melancholy impression on the mind; universal, when an universal trembling is excited; when all the muscles, which at other times are exerted to preserve the customary form of the countenance, or the erect state of the body, relax; in consequence of which we see the face lengthened, and the lower lip fall, so as to expose part of the teeth. If the relaxation is universal and continues, the body will not be supported, and even the actions by which the circulation is kept up will cease. Swooning follows; and if action is not restored before a certain time, the various organs, deprived of their accustomed stimuli, do not recover the power of performing their necessary functions, and death follows.

Mr. Hunter has also thought it unnecessary to give any illustration of *partial* sympathy with diseased *actions*, yet the want of it renders the subsequent paragraph somewhat obscure. The swelled testicle in the venereal disease, he observes, is an instance of partial sympathy; that is, the diseased part is the inflamed urethra, and the part which sympathizes is the testicle. If the inflammation in the latter

should be very considerable, the whole constitution sympathizes with it, and thus universal sympathy is produced.

The symptomatic fever has always been remarked as attendant on local inflammation. In the case of the swelled testicle, from whatever cause, the sympathy is often complicated, for not only does the whole constitution sympathize, but the brain is more commonly affected than in inflammation from other causes. Yet this affection does not appear a transfer of the inflammation, because we find it cease as the testicle recovers, and the symptoms are not those of true phrenzy.

The hectic fever, till Mr. Hunter's time, was usually considered as the effect of matter absorbed. Phthisis pulmonalis and psoas abscess seemed to furnish proofs of such a cause. The late Dr. Heberden has, however, a very ingenious paper on hectic fever, making the first article of the second volume of Medical Transactions. This accurate writer seems rather to consider the disease as the effect of repeated formations of matter, than of its absorption. He calls it the symptomatic, the irregular intermittent, and the fever of suppurations. The disease itself is most admirably described by him; but some parts of the paper are confused, from the difficulty the author found in tracing the cause constantly to suppuration. Hence he describes the various symptomatic fevers as making different forms of the hectic. Thus the shivering from the first formation of matter, and the high feverish irritation sometimes consequent on a wounded tendon, are all included in the hectic, which would be reasonable enough, if the *symptomatic* fever always became *hectic*, which we shall presently see is not the case. Mr. Hunter, though he considers both as the effect of sympathy, yet distinguishes them as arising from different causes, and exhibiting different phenomena. The *symptomatic* fever is usually acute, and arises from, or is only a *symptom* of, some acute local injury, which, throughout all its stages, whether in its commencement or its progress to suppuration, is attended with shivering and consequent fever. Sydenham has well marked these stages in small pox. They occur in every common abscess, if the progress is rapid.

Hectic, or (if we translate the word) *habitual** fever, is less acute than the symptomatic, but more permanent in its returns. As it almost always attends phthisis pulmonalis, and large incurable abscesses, it was supposed to arise from the absorption of matter. But this error might easily have been removed by reflecting, that in large

* The Greek word ἑκτικος can scarcely be translated by any other word than *habitual*. In both languages it is derived from the same root, from ἐχω *habeo*, ἑξις *habitus*, and ἑκτικος *habitu positus*, or, as we say in English, habitual. Habitual, though there is no such classical word as *habitualis*, must be derived from the Latin habitus, from which we vernacularize habit.

abscesses matter is sometimes absorbed without injury to the constitution. Suppuration is one of the curative processes of nature, in parts which cannot return to their original actions, and like other new actions is usually ushered in by shivering, and consequent fever. But where suppuration is unattended with inflammation, the constitution is little affected, so that no shivering or consequent fever arises. Thus in the psoas abscess, whilst it is continually enlarging by an increase of matter, or by fresh suppurations, the constitution is very little affected, and in the lungs large tubercles are formed, which suppurate, and whilst the matter remains in the capsules, the constitution only suffers from the loss of so much lung. But as soon as the abscess is opened by nature or art, or the matter of tubercles finds its way to the bronchia, inflammation takes place over the whole surfaces, as the first means by which the part is to be restored; and this inflammation is attended with shivering and heat, constituting a paroxysm of fever. If this attempt made by nature to restore the part is ineffectual, she renews it; but this and every future attempt are often insufficient to relieve so much mischief as the parts have sustained. Still, however, the attempt continues as long as the constitution retains power to excite inflammation, and each attempt is attended with a similar paroxysm. Hence the fever becomes *habitual*, or *hectic*, not from the absorption of matter, but from the repeated attempts at restoring parts which cannot be restored. This will be further illustrated when we arrive at Mr. Hunter's doctrines concerning *lues venerea.*

Thus the symptomatic and hectic fever are both of them similar, inasmuch as they arise from the *sympathy* of the whole constitution with a local disease; and the only difference is, that the former is for the most part more acute, and rarely returns more than once or twice, after which, if matter is formed, it is either absorbed, or if it comes forward to the surface, granulation succeeds, to restore the lost part. The hectic, on the contrary, is less violent, in proportion as the constitution is previously debilitated, but returns as long as strength enough remains to attempt the curative process. To bring these more immediately to the present purpose—symptomatic fever, in swelled testicle, is the sympathy of the constitution with the violent inflammation excited. Hectic fever, in lues venerea, is the perpetual attempt of the constitution to cure a disease, or to excite such a new action as will supersede the disease; but we find, by experience, that the constitution is unequal to such an attempt. The attempt, therefore, not having succeeded, is renewed till it becomes *habitual;* or, in other words, " *hectic* fever is an habitual universal sympathy of the constitution, struggling with a disease which it is unable to overcome."

SECTION II.

Of Morbid Actions being incompatible with each other.

The venereal disease is not only suspected to be present in many cases where the nature of the disorder is not well marked, but it is supposed that it can be combined with other diseases, such as the itch and the scurvy. Thus we hear of pocky itch, and of scurvy and the venereal disease combined; but this supposition appears to me to be founded in error. I have never seen any such cases, nor do they seem to be consistent with the principles of morbid action in the animal economy. It appears to me, beyond a doubt, that no two actions can take place in the same constitution, or in the same part, at one and the same time. No two different fevers can exist in the same constitution; nor two local diseases in the same part at the same time; yet as the venereal disease, when it attacks the skin, bears a resemblance to those symptoms which are vulgarly called scorbutic, they are often supposed to be mixed and to exist in the same part.

What has been called a scorbutic constitution is no more than a constitution very susceptible of an action producing eruptions on the skin, whenever an immediate cause takes place; and there are some parts of the body more susceptible of this than others, in which, therefore, a slighter immediate cause is sufficient to excite the action; but the easy susceptibility, with respect to one disease, is not a reason why a constitution should not likewise be susceptible of other diseases. A man may have the pox and the small-pox at the same time; that is, parts of his body may have been contaminated by the venereal poison, and the small-pox may take place, and both diseases may appear together, but not in the same parts. If both were consequences of fever, and each followed the fever nearly about the same time, it would be impossible for each to have its respective eruption, even in different parts, at the same time; two fevers, antecedent to these different diseases, cannot be co-existent.

From this principle, I think I may fairly put the following queries. Does not the failure of inoculation, and the power of resisting many infections, sometimes arise from the person's having, at the same time, some other disease, and therefore being incapable of a new action? Does not the great difference in the time, from the application of the cause to the appearance of the effect, in many cases, depend upon the same principle? It has been sometimes observed, that the puncture in the arm has shewn no sign of inflammation in fourteen days after the application of the variolous poison. Has there not been another disease in the constitution at the time of ino-

culation? Does not the cure of some diseases depend upon the same principle? The suspension or cure of a gonorrhœa by a fever may be an instance of this.

Let me illustrate this principle still further, by one of many cases which have come under my own observation. On Thursday the sixteenth of March, one thousand seven hundred and seventy-five, I inoculated a gentleman's child; in whose arms it was observed I made large punctures. On the Sunday following, he appeared to have received the infection; a small inflammation or redness appearing round each puncture, and a small tumour above the surface of the skin having been observed. On the twentieth and the twenty-first, the child was feverish; but I declared that the fever was not variolous, as the inflammation had not at all advanced since the nineteenth. On the twenty-second, a considerable eruption appeared, which was evidently the measles: upon this the sores on the arms appeared to go back, becoming less inflamed. On the twenty-third, he was very full of the measles; the punctures on the arms being in the same state as on the preceding day. On the twenty-fifth, the measles began to disappear. On the twenty-sixth and twenty-seventh, the punctures began again to look a little red. On the twenty-ninth, the inflammation increased, and there was a little matter formed. On the thirtieth, he was seized with fever. The small-pox appeared at the regular time, went through its usual course, and terminated favourably. In like manner it may be observed, that the venereal disease makes its appearance at different periods after infection. Is not this explicable on the same principle?

That two morbid actions cannot go on in the *same place* at the *same time*, is not only maintained, by the contrary being in opposition with common sense; but, at this time is, I believe, admitted, from observation, by the general consent of most medical men.

On the subject of constitutional diseases, the question is more doubtful to some, but the very few instances in which two such diseases have apparently occurred at the same time in the same constitution, are not sufficient to destroy the general law.

There are, indeed, two constitutional diseases, or two morbid poisons, which affect the constitution, and may always be produced at the same time in a constitution susceptible of one. But this single instance is rather a confirmation of the law. Cow-pox and small-pox, if inserted at the same time in different parts of the same person, produce each the same effect, as if only one of them had been inserted. Now, though these two diseases are not exactly the same, yet they produce the same change in the constitution, that is, they render it no longer susceptible of small-pox. Their action on the constitution must, therefore, be in most respects similar, so that we

might expect them to be carried on in the constitution at the same time. If there are a few solitary instances in which small-pox, or cow-pox, and measles, have occurred at the same time, in the same individual, yet no attempt at producing them artificially at the same time has ever succeeded; and where the measles have taken previous possession of the constitution, small-pox inoculation has never produced its effects till the measles have completed their course. The proof of this, as given by Mr. Hunter, has been confirmed at the Small-Pox Hospital, and in other places, so often as to render it no longer a matter of doubt.

SECTION III.

Of the Comparative Powers of Different Parts of the Body—From Situation—From Structure.

We shall have occasion to observe, that the parts affected assume the morbid action more readily, and continue it more rapidly, when near to the source of the circulation than when far from it; for the heart exerts its influence upon the different parts of the body, in proportion to their vicinity to it; and the more distant that the parts are, the weaker are their powers.

This is, perhaps, better illustrated by disease than by any actions in health; for in health we have no comparative trials, as no two parts of the machine, at unequal distances from the heart, can be thrown into equal action, and therefore no conclusions can be drawn. It may be observed, that all the vital parts are near the heart.

In diseases we see mortification, arising from debility, in the extremities oftener than in other parts, more especially if the person is tall; the heart not propelling the blood to these distant parts with equal force. In such a state of constitution, those who labour under a hemiplegia are often found to die at last, from a mortification in the extremities of the paralytic side. In some of these cases, the arteries give way, and allow of an extravasation of the blood, and therefore we may reasonably suppose that they are proportionally weak in health. We also find, that such extravasation commonly begins in the extremities. This principle is not only evident in these two diseases, but also in every disease that can affect an animal body. It appears in the readiness with which diseases come on, and proceed in parts distant from the source of the circulation, and also in the steps towards a cure.

Parts differ not only in their powers, in proportion as they are nearer or further from the heart, but likewise according to their pecu-

liar structure, whereby they vary as much in the progress of morbid actions as in the operations of health.

An animal body is composed of a variety of substances, as muscle, tendon, cellular membrane, ligament, bone, nerve, &c. We have therefore an opportunity of observing the comparative progress of diseases in them, and their comparative powers of performing a cure; and we find that they differ very much from one another in those respects. How far these differences take place in all diseases, I have not been able to determine; but should suppose, that in specific diseases, as scrofula and cancer, there is in general no difference in the mode of action in any of the structures,* these diseases producing the same specific effects in all the parts that are capable of being affected by them; but in diseases arising from accident, a great difference in the degrees of action takes place; the parts, from such a cause, being allowed to act according to their natures; which observation holds good also in the venereal disease. This difference appears to be chiefly in the degrees of strength and weakness in resisting morbid action. The less the natural powers of action are in any particular structure of parts, the less they are able to resist disease; therefore bone, tendon, ligament, and cellular membrane, go through their morbid actions more slowly than muscle or skin; and this principle is applicable to the venereal disease.

SECTION IV.

Of Parts susceptible of Particular Diseases.

THERE are some parts much more susceptible of specific diseases than others. Poisons take their different seats in the body as if allotted for them. Thus, we have the skin attacked with what are vulgarly called scorbutic eruptions, and many other diseases; it is also the seat of the small-pox and the measles; the throat is the seat of the hydrophobia and the hooping-cough. The scrofula attacks the absorbent system, especially the glands. The breasts, testicles, and the conglomerate glands, are the seat of cancer. The skin, throat, and nose, are more readily affected by the lues venerea than the bones and periosteum, which, on the other hand, suffer sooner than many other parts, particularly the vital parts, which perhaps are not at all susceptible of the disease.

*Here it is to be understood, that we do not include those parts which have a greater tendency to specific diseases than what many others have; as the lymphatics to the scrofula, the breast to the cancer.

SECTION V.

Of Inflammation.

I CONSIDER common inflammation to be an increased action of the smaller vessels of a part, joined with a peculiar mode of action, by which they are enabled to produce the following effects : to unite parts of the body to each other ; to form pus ; and to remove parts of the solids. These effects are not produced by a simple increase of action, or enlargement of the vessels, but by a peculiar action, which is at present perhaps not understood.

These three effects of inflammation I have called distinct species of inflammation. That which unites parts, I have called the *adhesive inflammation ;* that which forms pus, the *suppurative inflammation ;* and that which removes parts, the *ulcerative inflammation.*

In the adhesive inflammation, the arteries throw out coagulable lymph, which becomes the bond of union. This, however, is not simply extravasated, but has undergone some change before it leaves the arteries, since, in inflamed veins, it is found lying coagulated upon the internal surface of the vessel, which could not have happened if simply extravasated. In the suppurative inflammation, a still greater change is produced upon the blood before it is thrown out by the arteries, whereby it is formed into pus ; which change is probably similar to secretion. In the ulcerative inflammation, the action of the arteries does not remove the parts ; that office is performed by the absorbent vessels which are brought into action.

In the two first species of inflammation, there must be a change in the disposition and mode of action of the arteries ; for the suppurative species cannot be considered as simply an increase of the action of the adhesive, as its effects are totally different ; but in the third species there is probably no change of action in the arteries from that of the second ; the action only of the absorbents being superadded, by which solid parts, and of course the arteries themselves, are removed.

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The old idea of inflammation, suppuration, and ulceration, which survived the humoral pathology was, that inflammation was excited by an obstruction, or, as it was afterwards called, a spasm on the extreme vessels—that suppuration was a melting down of the solid parts into matter ; and ulceration a continuance of the same process. All this was merely describing appearances, and referring them to causes which could not produce such effects. We know of no process by which solids can be converted into pus, nor is the destruction

of solids necessary for the formation of it; for we find the purest pus where there is no loss of substance, viz. on a granulating sore. Mr. Hunter, therefore, considers the coagulated lymph thrown out, which was supposed to be the cause of inflammation, as the effect only of that process, and not induced merely by extravasation from increased action, but by a particular mode of action in order "to re-unite parts," in some instances, where they have been divided by force, or in cavities, to prevent the spreading of inflammation. This is his adhesive inflammation. When the inflammation is so far altered as to induce a secretion of pus, he calls it suppurative inflammation; and when a part of the solid substance is removed by the absorbents, whilst the secretion of matter is going on, it becomes the ulcerative inflammation. The progress of inflammation is not, in every part, according to the order here stated, of *adhesive*, *suppurative*, and *ulcerative:* when parts are divided and brought into contact, the adhesive takes place, and, if that succeeds, the inflammation ends here; but if union is not produced by the coagulated lymph, a granulating surface must be formed, previous to which suppuration and ulceration are necessary, in order to detach the surface, which was found incapable of union.

In large cavities containing viscera covered by membranes, if inflammation is excited, the adhesive process is attempted, by which surfaces are united, the suppuration of which would be attended with much danger. The spreading of the inflammation by *continuous sympathy* is also prevented by this adhesion. If the inflammation ceases after the adhesions are formed, no other inconvenience is sustained than that the parts lose that easy motion on each other which conduced much to the performance of their necessary functions. By degrees, however, there is reason to believe that these adhesions elongate, if they are not altogether absorbed. Such is the case when the lungs adhere to the pleura, the heart to the pericardium, and the intestines to the peritoneum. But, if inflammation extends further, the consequence will be such an alteration in the parts as to prevent their returning to their proper functions. Hence the suppurative inflammation follows, or the formation of matter. This matter must be brought to the surface, or to some outlet, which can only be done by the absorption of all the solid matter between the abscess and the surface; and this is the ulcerative inflammation.

Such is the order of these three inflammations in the parts described, when the inflammatory process does not cease with the adhesive stage. But, if inflammation attacks a mucous membrane, which serves as a passage for any excretion out of the body, the order is inverted; for if the first effect of inflammation on such a part as these, were to be the throwing out of coagulable lymph in order to form adhesions, the consequence would be, that the urethra, the vagina, the œsophagus, or any other similar membranes, would be

united at their sides, and the necessary passages would be obliterated. The immediate consequence of inflammation in such parts, therefore, is only an increased and altered secretion. If the inflammation is very considerable, the secretion is thin, like the discharge on an inflamed ulcer. As inflammation abates, the secretion comes nearer to the laudable pus of a healing ulcer. In this state it continues lessening in quantity and improving in quality as inflammation abates, till at length it returns to its natural form, and for the most part to its natural quantity. The period of the last is somewhat uncertain, as we find gleet remain after the inflammation of gonorrhœa has ceased, and an increased discharge will remain in the Schniederian membrane and trachea, after the inflammation which produced catarrh has subsided.

Such is the different order of inflammation according to the texture and office of the parts inflamed. But as inflammation on a cut surface, or on the surface of viscera, or the membrane which lines them, may on some occasions prove so violent, or of such a kind, as to run immediately into suppuration, so inflammation of mucous membranes may be of such a kind, or so violent, as to throw out coagulable lymph, instead of only increasing or altering its usual secretion. Such is the case in croup, where the trachea, though a mucous membrane, throws out coagulable lymph under inflammation. Such Mr. Hunter found he could induce in the vagina of an ass, by injecting a strong solution of corrosive sublimate. Perhaps such are the few instances in which what are called caruncles have been found in the urethra.* M. Bichat, without knowing what was done by Mr. Hunter, has made an ingenious work on the different forms of inflammation, according to the texture of the membranes inflamed. Abstracted from the French verbiage, the whole is reducible to those laws of inflammation which Mr. Hunter has so long taught, and of which, in two instances, an epitome is here offered.

SECTION VI.

Of Mortification.

Mortifications are of two kinds, the one preceded by inflammation, the other not; but as the cases of mortifications, which will be mentioned in this work, are all of the first kind, I shall confine my observations to that species.

I consider inflammation as an increased action of that power which

* Even in these cases, however, nature seems to have made a provision, that, though coagulated lymph is thrown out, yet it shall not unite the sides of canals, as it does viscera, with their surrounding membranes.

a part is naturally in possession of. This increased action, in healthy inflammations at least, is probably attended with an increase of power; but in inflammations which terminate in mortification, there is no increase of power: on the contrary, there is a diminution of power, which, joined to an increased action, becomes the cause of mortification, by destroying the balance which ought to subsist between the power and action of every part.

If this account of mortifications be just, we shall find it no difficult matter to establish a rational practice; but before we attempt this, let us just take a view of the treatment hitherto recommended, and see how far it agrees with our theory.

It is plain, from the common practice, that the weakness has been attended to; but it is as plain, that the increased action has been overlooked; and therefore the whole aim has been to increase the action with a view to remove the weakness. The Peruvian bark, confectio cardiaca, serpentaria, &c. have been given in as large quantities as the case appeared to require, or the constitution could bear; by which means an artificial or temporary appearance of strength has been produced, while it was only an increased action. The cordials and wine, upon the principle on which they have been given, are rationally administered; but there are strong reasons for not recommending them, arising from the general effect which all cordials have of increasing the action without giving real strength; and the powers of the body are afterwards sunk proportionally as they have been raised; by which nothing can be gained, but a great deal may be lost; for in all cases, if the powers are allowed to sink below a certain point, they are irrecoverable.

The local treatment has been as absurd as the constitutional. Scarifications have been made quite to the living parts, that stimulating and antisceptic medicines might be applied to them, such as turpentines, the warmer balsams, and sometimes the essential oils. Warm fomentations have been also applied as congenial to life; but warmth always increases action, and stimulants are improper where the actions are already too violent.

Upon the principles here laid down, the bark is the only medicine that can be depended upon, as it increases the powers and lessens the action. Upon many occasions opium will be of singular service, by lessening the action, although it does not give real strength. I have seen good effects from it, both when given internally in large doses, and when applied to the part. To keep the parts cool is proper; and all the applications should be cold. The above-mentioned practice is to be kept in view in mortifications that happen in the venereal disease.

Inflammation, we have seen, is not merely increased action, but also a new mode of action governed by certain laws. To support

this increased action, and to change the mode of action according to the new circumstances of the part, all the vessels connected with the part must possess a power equal to the new offices required, and the constitution must possess strength to maintain the parts in the use of such power. If the parts are distant from the source of the circulation, or if they are, from the nature of their texture, but scantily supplied with blood-vessels, the probability is, that, when inflamed, the inflammation will not run high. Should the inflammation be very considerable, there will be danger lest the action may prove greater than the parts can support, or than the constitution can maintain them under. In this case, the parts must cease to act altogether, or, in other words, mortification must follow. This is easily illustrated by what we see occur in the actions of those parts which are more immediately the object of our senses. Every animal has a certain power of muscular action, and every man has certain reasoning powers. Action seems, if not necessary, at least useful, for both; but either of them may, for a time, support an action which, if continued beyond a certain degree, will destroy either life or the organ whose action has been too long increased. A horse will feel that high animation which will enable him to go over a quantity of ground greater than he could accomplish at other times; but if this extraordinary action is kept up too long, the consequence is the death of the animal. In the rational part of man, if action is kept up longer than the reasoning powers can support, the consequence is sometimes fatuity altogether. Mr. Hunter used to produce a still better illustration to show the consequence of exciting action, beyond what the powers of the animal would support. He kept lizards and other reptiles in a cool cellar without food till late in the spring. In this condition they crawled slowly about, but were for the most part motionless, without being completely torpid. On exposing some of them to a warm sun they instantly became lively, and basked in the rays; but in a few hours after ceased to live altogether. In the mean time, those which remained in the cellar retained their life and former habits. In the first, action was suddenly excited without the power of supporting it: in the second, action remained languid in proportion to the powers.

The *frost-bitten* affords another illustration of the necessity of power to support action before the latter is excited. If the affection extends throughout the whole frame, and the person is suddenly brought to a strong heat, the consequence is, that high action is excited in some organs before others are so far relieved as to assist in supporting that action, and death follows. If only a part is frozen, the same danger attends the sudden application of warmth to that part, for if full action is at once excited before the neighbouring vessels are brought into a situation to support that action, the part dies. This is so universally understood in very cold climates, that the con-

stant practice is to rub with snow a person or part frozen before any heat is applied. By this friction, action is gradually excited, and by the coldness of the snow that action is kept under.

Mortification, however, is not a mere cessation of action: it seems to be the last sequel of inflammation, when it can neither be arrested by adhesion nor suppuration; for a dead part of a man who has died from any common disease, shows, as far as we can judge, the same arrangement of vessels as existed during life, and the only difference we know of is, that action has ceased and cannot be restored. But in a mortified part we find no vessels, nor any distinction of parts: all appears an homogeneous mass, which no means can restore to its former functions. The next process of nature is, therefore, to separate it from its attachment to the living part. In order to assist the constitution, it is plain that we are not to excite high action. We have already seen, that an increase of action beyond what the strength will support, has been followed by mortification. Our attention must be directed to increasing strength, which would be further impaired by too much action. With sufficient strength, the parts will act according to those laws impressed upon them by their new situation, that is, ulceration will commence in order to dislodge the dead part. This ulceration, we have before shown, is no more than absorption with the secretion of pus. Absorption of the substance, by which the mortified is connected with the living part, is the only means of what is called *separation*, which we look for after mortification. To produce this, a certain degree of power is necessary; but high action is inconsistent with the action we look for, and destructive of the power which is to support it.

PART I.

CHAP. I.

Of the Venereal Poison.

The venereal disease arises from a poison; which, as it is produced by disease, and is capable of again producing a similar disease, I call a morbid poison, to distinguish it from the other poisons, animal, vegetable, and mineral.

The morbid poisons are many, and they have different powers of contamination. Those which infect the body, either locally or constitutionally, but not in both ways, I call *simple*. Those which are capable of affecting the body both locally and constitutionally, I call *compound*. The venereal poison, when applied to the human body, possesses a power of propagating or multiplying itself; and as it is also capable of acting both locally and constitutionally, it is a compound morbid poison. Like all such poisons, it may be communicated to others in all the various ways in which it can be received, producing the same disease in some one of its forms.

Mr. Hunter is the first person who saw the necessity of appropriating different terms to the different kinds of animal poisons. Dr. Mead, and indeed most of the writers on hydrophobia, confounded that poison with the poison of venomous reptiles. But it is scarcely necessary to remark, that such animals as have originally a poison for attack or defence, are always found to be more venomous in proportion as they are in better health; and the animals poisoned by them acquire no power of poisoning others. On the contrary, as far as we have been able to ascertain the fact, though the dog may not have all the symptoms of rabies when his bite induces hydrophobia in other animals, yet he is never in health, and many of the animals thus bitten acquire the property of inducing a similar disease in others. Hence the poison, being the effect of *disease*, is very properly called *morbid*. For the same reason the venereal disease, the small-pox, and some others, are morbid poisons; these can only be excited by the application of matter produced from the respective diseases; they must, therefore, have originated from some cause we cannot now trace.

By this section it would appear, that Mr. Hunter suspected the venereal poison owed its origin to some unnatural connexion. The probability of this is in some degree confirmed by what we see of the cow-pox. This morbid poison certainly originates from a quadruped; yet when assumed by man, may uniformly be communicated to any extent. The great analogy between this morbid poison and small-pox leads us fairly to conclude, that the latter also was derived from some other animal, and perhaps the tradition concerning the camel may have some foundation. It is certain that the vaccine virus in the cow does not exhibit exactly similar phenomena to what we see in the human. In the latter, the local disease excited never produces any secretion, excepting lymph, or at least a transparent fluid. In the cow I have never seen such a secretion. In all the instances I have heard of, and in the only instances in which I saw the disease, in company with Dr. Jenner, when it pervaded a large dairy in Gloucestershire, it was in all the cows that were examined, turbid like pus slightly tinged with brownish red. Yet this pus induced, in innumerable successions, on the human arm, vesicles filled with a transparent fluid, and which never became purulent throughout the whole process, from vesication to scabbing and cicatrization: nor was it possible to distinguish between those arms which were infected immediately from the cow, and those which were inoculated from the human subject. The blue appearance so much talked of occured in both, and in both the complexion of the different vesicles varied from the blue to the pale amber. But in all it proved a true poison to those who were susceptible of its impression.

There is, indeed, every certainty the nature of the case will admit, that all the morbid poisons are of late origin, and the exact period of the venereal poison is now pretty well ascertained; and as at this time none of the morbid poisons can be excited but by the application of such poisons in some form, this is alone a sufficient proof that their origin must be looked for in some event different from the customary communication between animals of the same species.

On this occasion, I cannot help remarking the coincidence of language between Dr. Jenner and myself, without any previous knowledge of each other's writing; for the first edition of "Morbid Poisons" was published three years before Dr. Jenner's great discovery, yet his retired mode of life prevented his knowing that such a work existed. Dr. Jenner is bolder in his conjectures, but in other respects the similarity of our sentiments may amuse some of my readers.

"Diseases in one class of animals, when communicated to another, seem to alter many of their properties. It has not yet been exactly ascertained what is the peculiar situation of the dog, or other rabid animal, when his bite produces hydrophobia. Certain it is, that the same symptoms have not uniformly appeared as have followed his bite. The cow-pox is a disease well known among the farmers of

Gloucestershire, &c. Whether any of the morbid poisons, which at present so much diminish the period of human life, arose from such causes, cannot now be determined."—*Morbid Poisons, first edition*, 1795, *p.* 155, 6.

Dr. Jenner's work, which was published in 1798, commences thus:

"The deviation of man from the state in which he was originally placed by Nature seems to have proved to him a prolific source of diseases. From the love of splendour, from the indulgences of luxury, and from his fondness for amusement, he has familiarized himself with a great number of animals, which may not originally have been intended for his associates."

Let it not be suspected, from the above quotation, that I claim any part of Dr. Jenner's discovery, by having published before him. My only knowledge of cow-pox was derived from Mr. Cline, who, in answer to my suggestion of the probable origin of morbid poisons, acquainted me with Dr. Jenner's labours.

SECTION I.

Of the First Origin of the Poison.

Though the first appearance of this poison is certainly within the period of modern history, yet the precise time and manner of its origin has hitherto escaped our investigation; and we are still in doubt, whether it arose in Europe, or was imported from America. I shall not attempt to discuss this question; and those who wish to examine at length the facts, authorities, and arguments brought in favour of the latter opinion, may consult Astruc; and for the former a short treatise*, published in one thousand seven hundred and fifty-one, without a name. The author of this treatise appears to have considered the subject very fully, and as far as reasoning goes on a subject of this kind, proves that the disease was not brought from the West Indies. Not contented with this, he goes on to account for its first rise in Europe; but in this he is not equally successful. The subject is a difficult one; and the want of a sufficient number of facts leaves too much room for conjecture.

We shall not therefore enter further into this question; nor is it material to know at what period, and in what country, this disease

* Intitled, "A Dissertation on the Origin of the Venereal Disease; proving that it was not brought from America, but began in Europe from an epidemical distemper. Translated from the original Manuscript of an eminent Physician. London, printed for Robert Griffiths, 1751."

arose; but we may in general affirm, that as animals are not naturally formed with disease, or so as to run spontaneously into morbid actions; but with a susceptibility of such impressions as produce such actions, diseases must always arise from impressions made upon the body: and as man is probably susceptible of more impressions, that become the immediate cause of disease, than any other animal, and is besides the only animal which can be said to form artificial impressions upon himself, he is subject to the greatest variety of diseases. In one of those self-formed situations, therefore, the impression most probably was given, which produced the venereal disease.

SECTION II.

It began in the Human Race, and in the Parts of Generation.

In whatever manner it arose, it certainly began in the human race; as we know no other animal that is capable of being infected with this poison. It is probable, too, that the parts of generation were the first affected; for, if it had taken place in any part of the body, it might probably never have gone further than the person in whom it first arose, and therefore never have been known; but, being seated in the parts of generation, where the only natural connection takes place between one human being and another, except that between the mother and child, it was in the most favourable situation for being propagated: and, as we shall find hereafter in the history of the disease itself, that no constitutional effect of this poison can be communicated to others, we are led of necessity to conclude that its first effects were local.

The secondary or constitutional effect of small-pox, or of cow-pox, in the few instances in which secondary vesicles appear in the latter, have all the same properties as the primary, and only differ in size. The fluid taken from them also is similar, and will induce a similar disease in another person. But in the venereal disease the secondary symptoms have no resemblance to the primary. The appearance, as well as the progress of the chancre, is quite different from the copper spot, and subsequent slow ulceration of the skin; as will be hereafter shown in the order of the work.

SECTION III.

Of the Nature of the Poison.

We know nothing of the poison itself, but only its effects on the human body. It is commonly in the form of pus, or united with pus, or some such secretion, and produces a similar matter in others, which shows that it is most generally, although not necessarily, a consequence of inflammation. It produces, or excites, therefore, in most cases, an inflammation in the parts contaminated; besides which inflammation, the parts so contaminated have a peculiar mode of action superadded, different from all other actions attending inflammation; and it is this specific mode of action which produces the specific quality in the matter. It is not necessary that inflammation should be present to keep up this peculiar mode of action, because the poison continues to be formed long after all signs of inflammation have ceased. This appears from the following facts: men having only what is called a gleet or healing chancre, give the disease to sound women; and many venereal gonorrhœas happen without any visible signs of inflammation.

In women the inflammation is frequently very slight, and often there is not the least sign of it; for they have been known to infect men though they themselves have had no symptoms of inflammation, or of the disease in any form. Therefore the inflammation and suppuration, when present, are only attendants on the peculiar mode of action: the degree in which they take place depending more on the nature of the constitution than on that of the poison.

The formation of matter also, though a very general, is not a constant attendant on this disease; for we sometimes find inflammation produced by the venereal poison, which does not terminate in suppuration; such inflammation I suspect to be of the erysipelatous kind. It is the matter produced, whether with or without inflammation, which alone contains the poison; for without the formation of matter, no venereal poison can exist. Therefore a person having the venereal irritation in any form, not attended with a discharge, cannot communicate the disease to another. To communicate the disease, therefore, it is necessary that the venereal action should first take place; that matter should be formed in consequence of that action; and that the matter should be applied to a sound person or part.

That the venereal disease is to be propagated only by matter is proved every day by a thousand instances. Married men contract the disease, and not suspecting that they have caught it, cohabit with their wives, even for weeks. Upon discovering symptoms of the disease, they of course desist; yet in all my practice I never once

found, that the complaint was communicated under such circumstances, except where they had not been very attentive to the symptoms, and therefore continued the connection after the discharge had appeared. I have gone so far as to allow husbands, while infected, but before the appearance of discharge, to cohabit with their wives, in order to save appearances, and always with safety. I could carry this still further, and even allow a man, who has a gonorrhœa, to have connection with a sound woman, provided that great care be taken to clear all the parts of any matter, by first syringing the urethra; making water; and washing the glans.

The matter, which is impregnated with this poison, when it comes in contact with a living part, irritates that part, and inflammation is the common consequence. It must be applied either in a fluid state, or rendered fluid by the juices of the part to which it is applied. There is no instance where it has given the infection in the form of a vapour, as is the case in many other poisons.

SECTION IV.

Of the greater or less Acrimony of the Poison.

Venereal matter must in all cases be the same; one quantity of matter cannot have a greater degree of poisonous quality than another; and if there is any difference, it is only in its being more or less diluted, which produces no difference in its effects. One can conceive, however, that it may be so far diluted as not to have the power of irritation. Thus any fluid taken into the mouth, capable of stimulating the nerves to taste, may be so diluted as not to be tasted. But if the poison can irritate the part, to which it is applied, to action, it is all that is required; the action will be the same, whether from a large or small quantity, from a strong or a weak solution.

We find, from experience, that there is no difference in the kind of matter; and no variation can arise in the disease from the matter's being of different degrees of strength; for it appears, that the same matter affects very differently different people. Two men having been connected with one woman, and both catching the disease, one of them shall have a violent gonorrhœa or chancre, while the other shall have merely a slight gonorrhœa. I have known one man give the disease to different women, and some of the women have had it very severely, while in others it has been very slight. The same reasoning holds good with regard to chancres. The variations of the symp-

toms in different persons depend upon the constitution and habit of the patient at the time. What happens in the inoculation of the small-pox strengthens this opinion. Let the symptoms of the patient, from whom the matter is taken, be good or bad; let it be from one who has had a great many pustules, or from one who has had but few; let it be from the confluent or distinct kind; applied in a large quantity or a small one; it produces always the same effect. This could only be known by the great numbers that have been inoculated under all these different circumstances.

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As far as Mr. Hunter's illustration required, he is perfectly correct; for in small-pox matter applied in quantities, however small or great, however numerous the punctures of inoculation, or however large the quantity of matter thrown into the puncture, the effect is the same as if the punctures were fewer, and the matter diluted with water to any quantity not sufficient to render it *effete*. The opinion of Dr. G. Fordyce that the advantage derived from inoculation arises from the small quantity of matter introduced, produced only a temporary effect on the practice, and was refuted by every observation. It is not so certain that the *acrimony* of the poison may not be different, and that such difference may not be permanent. It is hardly conceivable that the cow-pox is not a milder small-pox, the character of which may be perpetuated. On this subject I have entered more at large in " Morbid Poisons," and as the question is not necessary to be resolved in this place, I shall leave it to future experience.

SECTION V.

Of the Poison being the same in Gonorrhœa and in Chancre.

It has been supposed by many, that the gonorrhœa and the chancre arise from two distinct poisons; and their opinion seems to have some foundation, when we consider only the different appearance of the two symptoms, and the different methods of cure; which, with respect to the nature of many diseases, is too often all we have to lead our judgment. Yet, if we take up this question upon other grounds, and also have recourse to experiments, the result of which we can absolutely depend upon, we shall find this notion to be erroneous.

If we attend to the manner in which the venereal poison was communicated to the inhabitants of the islands of the South Seas, there

are many circumstances which tend to throw light upon the present question. It has been supposed, as no mention is made of a gonorrhœa at Otaheite, that it must have been the chancre that was first introduced into that island; and that of course nothing but a chancre could be propagated there; for as no gonorrhœa had been communicated, no such disease could take place. But if we were to reason upon all the probable circumstances attending the voyages to that part of the world, we should conclude the contrary; for it was almost impossible to carry a chancre so long a voyage without its destroying the penis; while we know from experience, that a gonorrhœa may continue for a great length of time. It is mentioned in Cook's voyage, that the people of Otaheite, who had this disease, went into the country and were cured; but when it became a pox, it was then incurable. This shows, that the disease which they had must have been a gonorrhœa; for we know that it is only a gonorrhœa that can be cured by simple means: and further, if it had been a chancre, and they had been acquainted with the means of curing it, they could also have cured the lues venerea.

Wallis left Plymouth in August 1766, and arrived at Otaheite in July 1767, eleven months after his embarkation; and if none of his men had the disease when he sailed, there was hardly a possibility of their contracting it any where afterwards in the voyage. This appears to be too long for a gonorrhœa to last. But let us suppose even that Wallis carried it thither in his ship, one or two of his crew having the disease. As he staid there five weeks, it was very possible, even very probable, that such person or persons might have communicated it so quickly as to have become the cause of contamination of the whole crew of his ship; but as this did not happen, it is a presumptive proof that Wallis did not carry it thither.

Bougainville left France in December 1766, but he touched at several places where some of his people might have got the disease. The last of which place was Rio de la Plata, which he left in November 1767, and arrived at Otaheite in April 1768, five months after. This interval of time agrees better with the usual continuance of the disease, than the length of Wallis's voyage, and therefore from this circumstance it becomes more probable, that Bougainville had carried it thither. Besides, it is likely that he could guard his people less against the disease than Wallis; for Wallis could have his choice of men at his first setting out, which was all that was necessary to prevent his carrying the disease with him, for he ran no risk of contracting it afterwards: but although Bougainville had the same advantage at first, yet he had it not afterwards, for his men were in the way of infection in several places, and he had no opportunity of changing them, and probably no great chance of having them cured. The circumstance of the disease being found by Bougainville at Otaheite

soon after his arrival, is a kind of proof that he carried it thither himself; for I observed before, that if Wallis had carried it by one man only, this man could in a very few days have so far propagated it, as to have spread it through the whole ship's crew; and as Bougainville arrived at the island ten months after Wallis, there was a sufficient time for the inhabitants of the whole island to have been infected, and the ravages of the disease must have been evident to them immediately upon their arrival. Bougainville remained only nine days at the island of Otaheite, and observed nothing of the disease till some weeks after his departure, when it was found that several of the crew were infected, which most probably must have happened in consequence of the poison being carried there by some of his own people. It is also mentioned by Cook, that the Otaheiteans ascribed the introduction of the disease to Bougainville; and we can hardly suppose that they would be so complaisant to our countrymen as to accuse Bougainville, when they must have known whether the disease was imported by Wallis or not, especially as they had no reason to be partial in favour of the people who accompanied the latter. But as we find in Cook's last voyage, that the disease in every form is now there, and as we have no new intelligence of a gonorrhœa being since introduced, we must suppose that every form of the disease has been propagated from one root, which most probably was a gonorrhœa.

If any doubt still remain with respect to the two diseases being of the same nature, it will be removed by considering that the matter produced in both is of the same kind, and has the same properties; the proofs of which are, that the matter of a gonorrhœa, a chancre, or the lues venerea; and the matter of a chancre will also produce either a gonorrhœa, a chancre, or the lues venerea.

The following case is an instance of a gonorrhœa producing a lues venerea. A gentleman twice contracted a gonorrhœa, of which he was cured both times without mercury. About two months after each, he had symptoms of the lues venerea; those in consequence of the first infection were ulcers in the throat, which were removed by the external application of mercury; the symptoms, in consequence of the second, were blotches on the skin, for which also he used the mercurial ointment, and was cured. With regard to the lues venerea proceeding from chancres, instances occur so frequently to every one's observation, as to require no further proof here.

Since then it appears, that the gonorrhœa and chancre are the effects of the same poison, it may be worthy of inquiry, to what circumstances two such different forms of the disease are owing.

To account for these two very different effects of the same poison, it is only necessary to observe the difference in the mode of action of the parts affected when irritated, let the irritation be what it

may. The gonorrhœa always proceeds from a secreting surface,* and the chancre is formed on a non-secreting surface; and in this last the part to which the poison is applied, must become a secreting surface before matter can be produced. All secreting surfaces in the body being probably similar, one mode of application only is necessary to produce this disease in them all, which is by the poisonous matter simply coming in contact with them. But to produce the chancre, the venereal matter may be applied in three different ways; the first and most certain is by a wound, into which it may be introduced; the second is by applying the matter to a surface with a cuticle, and the thinner that is it allows the matter to come more readily to the cutis; and the third is by applying the matter to a common sore already formed.

The poison then being the same in both cases, why do they not always happen together in the same person? For one would naturally suppose, that the gonorrhœa, when it has appeared, cannot fail to become the cause of a chancre; and that this, when it happens first, must produce a gonorrhœa. Although it does not often happen so, yet it sometimes does; at least there is great reason to believe so. I have seen cases where a gonorrhœa came on; and in a few days after in some, in others as many weeks, a chancre has appeared: and I have also seen cases where a chancre has come first; and in the course of its cure, a running and pain in making water have succeeded. It may be supposed that the two diseases arose from the original infection, and only appeared at different times; and their not occurring oftener together would almost induce us to believe it was so, since the matter is the same in both, and therefore capable of producing either the one or the other.

I suspect that the presence of one irritation in these parts becomes in general a preventive of the other. I have already observed, that the two parts sympathize in their diseases; and it is possible that that very sympathy may prevent the appearance of the real disease; for if an action has already taken place which is not venereal, it is impossible that another should take place till that ceases; and it is probable that this sympathy will not cease while the cause exciting it exists; and therefore when both happen in the same person at the same time, I suspect that either the urethra never had sympathized

* By *secreting surfaces* I mean all the passages for extraneous matter, including also the ducts of glands, such as the mouth, nose, eyes, anus, and urethra; and by *non-secreting surfaces*, the external skin in general. To which I may add a third kind of surface leading from the one to the other, as the glans penis, prolabium of the mouth, the inside of the lips, the pudendum; which surfaces, partaking of the properties of each, but in a less degree, are capable of being affected in both ways, sometimes by being excited to secretion, and at other times to ulceration.

with the chancre, or if it did at first, that the sympathy had ceased, and then the venereal matter might stimulate the parts to action.

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We shall, hereafter, consider more at large the cause of this different appearance of the same disease in two different parts. At present I shall only take notice, that, with the best informed men, this is by no means the only objection to the admission that gonorrhœa and chancre arise from the same poison.

It is urged with much truth, that there are many instances of the perpetuation of a gonorrhœa through several subjects, without producing either chancres or secondary venereal symptoms in any of them. But this reasoning would only lead to the admission that the particular gonorrhœa thus instanced, though infectious, was not venereal. That gonorrhœa may be infectious, without being venereal, can hardly be questioned. As early as the promulgation of the Levitical law, it was required, that a man having a running at the reins, or, as the Septuagint has it, γονοῤῥοιαν, should be restrained from those connections by which he might communicate the disease; yet at this time there is no one who will undertake to prove that the venereal disease was known before the siege of Naples. When that disease excited the greatest terror, the first symptoms were almost overlooked. As they became better understood, and the source of them was traced to the genitals, it was still not easily suspected that a new disease could be traced from a symptom so long known as gonorrhœa. Some striking case, probably, gave the first suspicion, which was no sooner confirmed, than some systematic writers began to consider gonorrhœa as the necessary forerunner even of chancre: and with others, every gonorrhœa was considered venereal.

I shall at present pass over the argument drawn from the South Sea expedition, because, fortunately, it is not necessary to prove the question, and for other reasons which will hereafter appear. Indeed, when Mr. Hunter had so many *proofs* that the *two forms* of the diseases might be excited by the *same* matter, we cannot but lament he should have attempted an *inference* from data so ill-established as the South Sea disease.

Mr. Hunter's subsequent experiment, which will occur hereafter, puts this question beyond a doubt. I shall here relate only one case, the circumstances and parties connected with which afford also a very good illustration of some peculiarities in the mode of infection.

A young woman, who, though not on the town, was pretty liberal in her favours, was remarked to be very conscientious in not admitting any connection with married men. She had intercourse with many who were not delicate in their amours, till she became fixed in the house of a bachelor surgeon. This gentleman, naturally of a de-

licate constitution, had been for some time in a reduced state of health, during which he was nursed by the above female with much attention. The consequence of his convalescence may be easily guessed. Soon after this, he asked my opinion of some suspicious ulcers on the glans penis which had every character of chancres. What surprised him the most was, that the girl with whom only he had had any connection since his tedious illness appeared in perfect health, and he could ascertain with a certainty that she had no chancres. It was however discovered, that she had had, for a longer time than could be well ascertained, a discharge from those parts by which some of her lovers suffered, though others escaped, probably in proportion as the parts of each were more or less habituated to the poison; and, perhaps, the surgeon might owe his greater susceptibility to his chastity during his previous illness. The fact, however, shows two things; first, that gonorrhœa virulenta may exist with so little inflammation, and perhaps so slight a discharge, as to be scarcely known by the patient; and secondly, that in this state the discharge may excite ulceration or chancres in another person.

By this section we are led to inquire, why the same cause shall produce a different effect according to the nature of the parts to which it is applied. We have seen in the introduction (see pages 11 and 12), that common inflammation, from whatever cause, differs in its effects according to the customary actions, or, as it is sometimes said, according to the texture of the parts on which it is excited. The first process of inflammation on many surfaces there described we saw was adhesion. If inflammation had run particularly high, or the cause which excited it continued, we saw that the next process would be suppuration. In the venereal action the inflammation is not considerable, but the cause continues after the adhesions are formed: the consequence, therefore, must be suppuration, the peculiar phenomena of which in chancre we shall explain in its place.

But if the cause which excites inflammation should continue to exist on a secreting surface, the consequence, we have seen, is, that suppuration, or the secretion of pus, will take place by a mere change in the secretion of that surface. The analogy, therefore, holds good in the application of the venereal virus, which is one mode of exciting inflammation. Nor is it confined to this morbid poison.

In the small-pox taken in the casual way, the poison is applied to every part of the body; and if the inflammation is considerable, every part acts according to those functions with which it is invested. The skin and cellular substance, not being mucous membranes, are inflamed; coagulable lymph is thrown out; a slough follows, deep or shallow according to the violence of the inflammation: suppuration is the consequence, with ulceration to detach the slough:—such is the process in the external surface. In the cavities of the brain, an increased secretion takes place. Between the dura mater and brain,

lymph is thrown out, and, if the inflammation is very high, adhesions follow. In various parts of the abdomen, the same process is going on; but on the mucous membranes, if attacked with inflammation, the only consequence is increased secretion. Hence salivation takes place at the fauces, whilst suppuration is commencing on the surface. That the secretion arises from the same cause, and has the same virulent properties in each, is evident by the period that it lasts, and by the effects of each when applied to another person susceptible of the disease. In the Small-Pox Hospital, we have inoculated several persons with the saliva, and others with the fluid from a small-pox pustule, and found precisely the same effects.

Having thus, I hope, sufficiently illustrated Mr. Hunter's explanation, how the same matter applied to different surfaces may produce different effects, the reader must indulge me with a few words on the South Sea disease.

About the year 1800, a lady of fashion who was recommended to my care in Madeira, brought with her the French account of De la Peyrouse's voyage. Though I had leisure enough to peruse the whole, yet the letters of his surgeon attracted my particular notice. After examining them with the greatest attention, I could not help remarking that he wrote of *mals veneriennes* without the precision of a Hunter. In the end, I was convinced there was reason to doubt whether De la Peyrouse's surgeon had met with the venereal disease in any of the places in which he spoke of it with so much freedom. This induced me to examine the accounts of Captain Cook's voyages; and the result was, a thorough conviction, that, if the venereal disease existed at all in the South Sea islands, there was at least no satisfactory proof of it. Under this impression, I wrote to three physicians in London, explaining my doubts, and, perhaps with more Quixotism than prudence, was willing, if encouraged, to make a voyage in order to ascertain a point involving not only an important medical question, but in some measure the national reputation.

Fortunately this question has been much better decided, by one who candidly admits his arrival at those islands with a most perfect conviction that the disease existed there in all its forms. His inquiry was not, therefore, whether he should find it, but how general, and with what severity, it would appear, and also how he might preserve the health of his crew. From these circumstances, and still more from the character of the gentleman, no doubt can be entertained of the faithfulness of his conclusion, which is, that "*the venereal disease is unknown in Otaheite.*"* At first sight, it may seem

* "From the foregoing statement," says Mr. Wilson, "it may be concluded, without, I hope, presuming too much, that, notwithstanding the melancholy accounts we read of the ravages of lues venerea at Otaheite, and even disputations about its first importers, this disease was not introduced there antece-

strange that this opinion of mine has never been published before the fact was confirmed by Mr. Wilson. To this I can only answer, that to offer an opinion on a subject without the means of ascertaining it, must, at least, be premature. There are, however, fortunately, witnesses that such was my opinion. Dr. Garthshore is one of the gentlemen to whom I wrote from Madeira on the subject. The late Dr. Pitcairn was another, which is confirmed by his note now in my possession, and also by a communication he made to a most distinguished philosophical character now living.

But perhaps it may be asked, "Admitting the whole as I have stated it, why should the reader be troubled with the account?" In order, I answer, that he may learn there are certain characters by which the venereal disease may be distinguished with certainty; that these are so well marked as to be understood by description; and that even the absence of them may be ascertained by those who take the trouble of examining with sufficient diligence. It may, then, be asked, how could the accurate Hunter have fallen so easily into the belief, that the venereal disease was known in all its forms in the South Sea islands? Mr. Hunter, it may be answered, had not the prolixity of a French surgeon's account to make him doubtful on the subject. When I speak of prolixity in this case, it is not from disrespect. Though De la Peyrouse's surgeon was mistaken, still his descriptions are so minute as to enable the reader to comprehend what symptoms were present. It was from the description, not from the name, of the disease, that I suspected De la Peyrouse's cases were not venereal, and it was natural to transfer this scepticism to the South Sea disease. On examination it was found, that the account, defective as it is, would authorize the same conclusion.

SECTION VI.

Of the Cause of the poisonous Quality—Fermentation—Action.

As the consideration and explanation of this point will throw some light upon the disease, and cure, I may be allowed to dwell a little upon it. It has been supposed by some, that the poisonous quality of the matter arises from a fermentation taking place in it as soon as it is formed. But whether this poisonous quality arises from that cause; or whether the animal body has a power of producing matter according to the irritation given, whereby the living powers, whenever irritated in a particular manner, produce such an action in the parts as to

dent to the Porpoise's voyages."—See *Edin. Med. Journal*, vol. II. p. 283.—The Porpoise is his majesty's ship, of which Mr. Wilson was surgeon, and arrived at Port Jackson in June, 1801.

generate a matter similar in quality to that which excited the action, is what I am now to consider.

In the examination of this subject, I shall confine myself to the gonorrhœa. In support of either of the two opinions, it must be supposed that the venereal matter has, by its specific properties, a power of irritation beyond common matter. I have already observed, that it has the power of exciting inflammation even on the common skin, and of forming a chancre, which power is not possessed by common matter. In the first opinion, it must be supposed that there is no specific inflammation or suppuration produced by the application of the venereal matter, but only a common inflammation and suppuration, and that the matter capable of producing these effects acts as a ferment upon the new-formed matter, rendering it venereal as soon, or nearly as soon, as it is formed; and as there is a succession of secretions, there immediately follows a succession of fermentations. Now, let us see how far this idea agrees with all the variety of phenomena attending the disease. First, it may be asked, what becomes of this ferment in many cases where the suppuration does not come on for some weeks after the irritation and inflammation have taken place? In such cases, we can hardly suppose the original venereal matter to remain, and to act as a ferment. Secondly, when there is a cessation of the discharge, and no matter formed, which sometimes happens for a considerable time, and yet all the symptoms recur, what is it that produces this fermentation a second time? Nothing can, but a new application of fresh venereal matter. When, for example, the irritation is translated to the testicle, and the discharge is totally stopped, as often happens, what becomes of the virus? and how is a new virus formed when the irritation falls upon the urethra? Thirdly, if the poisonous quality were produced by fermentation taking place in the matter already formed, it would not be an easy matter to account for the symptoms ever ceasing; for, according to my idea of a ferment, it would never cease to act if new matter were continually added, nor could any thing possibly check it but a substance immediately applied to the part, which could stop or prevent the fermentation in the new matter. But as the venereal inflammation in this species of the disease is not kept up beyond a certain time, the production of the poison cannot depend on fermentation. Fourthly, if it depended on a fermentation in the secreted matter, all venereal cases would be alike, nor would one be worse than another, except from a greater or smaller number of fermentating places. Upon this supposition, also, all cases would be equally easy of cure; for the fermentation would be equally strong in a slight case as in a bad one. It can only be fermentation in the matter after it has left the vessels.

When the venereal matter has been applied to a sore, so as to irritate, it produces a venereal irritation and inflammation. But even this does not always take place; for the common matter from the sore

may remove the venereal matter applied, before it can affect the sore so as to produce the venereal inflammation and suppuration there. This experiment I have made several times, and have only once produced the venereal inflammation. But if the venereal matter were capable of acting as a ferment, then it would in all cases produce venereal matter, without altering the nature of the sore.

The effects produced by venereal poison, appear to me to arise from its peculiar or specific irritation, joined with the aptness of the living principle to be irritated by such a cause, and the parts so irritated acting accordingly. I shall, therefore, consider it as a poison, which, by irritating the living parts in a manner peculiar to itself, produces an inflammation peculiar to that irritation, from which a matter is produced peculiar to the inflammation. Let us consider how far this opinion agrees with the various phenomena attending the disease.

First, the venereal matter having a greater power of irritating than common matter, conveys more the idea of irritation than of fermentation. Secondly, its producing a specific disease with specific symptoms and appearances, shows that it has a specific power of irritation, the living powers necessarily acting according to that irritation. Thirdly, the circumstance of the inflammation having its stated time of appearance and termination, is agreeable to the laws of the animal economy in most cases, as it is a circumstance that takes place in other diseases that have a crisis; and when the disease is longer of duration in some than in others, it is because they are much more susceptible of this kind of irritation, and there may be perhaps other concurrent circumstances. Fourthly, the venereal inflammation being confined to a specific distance is more agreeable to the idea of a specific irritation, than that of a fermentation. Fifthly, we have a further proof of this opinion, from the appearance of the disease being translated from one part of the body to another, as in the case of the swelled testicle, in which the discharge is often stopped, or otherwise affected. Sixthly, the discharge often stops from the constitution being attacked by a fever, and returns after some days or weeks, or not at all, according to the continuance of the fever. Now we can plainly see, why the fever should put a stop to the discharge, as the disposition produced by it in a part is very different from that disposition which formed the matter; and we can plainly see, why the same disposition to form matter should often return; but how that return should be venereal, upon the principles of fermentation, we do not see. Seventhly, the production by art of an irritation of another kind, which is not specific, removes the specific irritation; now an irritation of another kind cannot prevent the fermentation from going on, but may destroy the venereal irritation. Eighthly, the circumstance of particular parts of our body being much more readily irritated than others by the venereal poison, when in the con-

stitution, shows that it arises from an irritation, and that of a particular kind. Ninthly, we know of no other animal that is susceptible of the venereal irritation; for repeated trials have shown that it is impossible to give it to a dog, a bitch, or an ass.* It is much easier to suppose, that a dog or an ass is not susceptible of many irritations of which the human body is susceptible, as we find to be the case in all other specific diseases, and most poisons, than that the matter of the human body is susceptible of a change, of which that of the dog or ass is not.

This argument is still further supported by comparing the venereal poison with other morbid poisons. The animal poison productive of the hydrophobia, seems to be produced by a particular irritation affecting certain parts, which shows, that if the body, or any part of the body, is irritated, it takes a disposition to act in a peculiar manner, and that this mode of action is capable of secreting such juices as will throw another animal into the same action. In the hydrophobia, the throat and its glands are particularly affected; and how the saliva should become of such a nature from the same kind of matter being either carried into the constitution, or perhaps only by the general sympathy of the constitution with a local affection, and more particularly with the parts about the throat, is not easily to be accounted for, without a supposition either that the absorbed poison circulating can produce a specific constitutional action capable of affecting the throat and glands there, just as the poison of the small-pox affects the skin, or that the circulating poison has power to affect or irritate the glands of the mouth only, or that those parts only are capable of immediately sympathizing with the part irritated, as the muscles of the lower jaw are when they produce the locked jaw.

If this theory be just, it explains why epidemical diseases, arising from particular seasons, particular constitutions of air, &c. irritate in such a manner, as to produce a fever, the effluvia of which shall irritate in the same manner. For it is not in the least material how the original irritation arises, it is only necessary that there should exist in the animal a power of acting according to the stimulus given by that irritation.

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It is very curious, in this and the subsequent passage, to remark how exactly Mr. Hunter has followed the mode of reasoning proposed by Bacon instead of the syllogism, which, in physiology, is liable

* I have repeatedly soaked lint in matter from a gonorrhœa, chancre, and bubo, and introduced it into the vagina of bitches, without producing any effect. I have also introduced it into the vagina of asses, without any effect. I have introduced it under the prepuce of dogs without any effect. I have also made incisions and introduced it under the skin, and it has only produced a common sore. I have made the same experiments upon asses, with the same result.

to many objections. "Nothing," says the father of modern philosophy, "really exists but individual bodies having certain individual actions according to a law; and the business of philosophy, the object of every experiment, and the only rational foundation of any theory, is the discovery and tracing of that law." The venereal poison is only known by the *action* which follows its application; of this *action*, therefore, only, does Mr. Hunter speak. He traces the *forms* produced by the action, and describes them accurately. When he has collected a sufficient number of facts to trace the uniformity of each by their result, he considers such individual actions as laws; having established which, he is enabled to account for certain forms which to others appeared inexplicable, and with whom a *Proteus-like disease* was the most convenient term for indolence or incapacity.

In this last paragraph Mr. Hunter has assumed more than is necessary to prove his own position. Those contagions which are universally admitted as such, viz. small-pox, scarlet fever, and measles, can always be traced to a cause in all respects similar to the effect. But camp fevers, dysenteries, and other diseases which are only found where men are confined together under unfavourable circumstances, arise from those very circumstances, without the necessity of any communication with others under similar diseases. It is not less certain, that such epidemics as arise under certain seasons and particular constitutions of the air, cease with those seasons and with that constitution, whereas the contagions rarely cease till all who are susceptible of them have passed through them. Whenever the plague occurs in Egypt, it always ceases as the summer solstice arrives, and in England it has always ceased as the cold weather has set in. Dysentery ceases, or becomes only sporadic, as the winter or spring arrives, and influenza ceases with the change in the constitution of the air. Thus, if the matter excited by these diseases is contagious, the human constitution loses its susceptibility of such impression as the constitution of the air changes. This shews a marked difference between the two, and proves that it is very "material how the original irritation arises." As this inquiry is not necessarily connected with the present treatise, it is probable the author was less anxious in the choice of his expressions. But this is not a sufficient apology; and it appeared necessary to caution the young reader that he is not implicitly to rely on names, however deservedly celebrated.

CHAP. II.

The Mode of Venereal Infection.

Every infectious disease has its peculiar manner of being caught, and among mankind there is generally something peculiar in the way of life, or some attending circumstance, which exposes them, at one time or other, to contract such diseases, and which, if avoided, would prevent their propagation. The itch, for instance, is generally caught by a species of civility, the shaking of hands; therefore the hand is most commonly the part first affected. And as the venereal infection is generally caught by the connection between the sexes, the parts of generation commonly suffer first. From this circumstance, people do not suspect this disease, when the symptoms are any where else, while they always suspect it in every complaint of those parts.

In the lower class of people, one as naturally thinks of the itch when there is an eruption between the fingers, as in young men of the venereal disease whose genitals are affected: but as every secreting surface, whether cuticle or not cuticle, (as was explained before,) is liable to be infected by the venereal poison when it is applied to it, it is possible for many other parts besides the genitals to receive this disease. Therefore it appears in the anus, mouth, nose, eyes, ears, and, as has been said, in the nipples of women who suckle children affected by it in their mouths; which children have been infected in the birth from the diseased parts of the mother.

CHAP. III.

Of the different Forms of the Disease.

The venereal poison is capable of affecting the human body in two different ways; locally, that is, in those parts only to which it is first applied; and constitutionally, that is, in consequence of the absorption of the venereal pus which affects parts while diffused in the circulation.

Between the first and second kind, or the local and constitutional,* certain intermediate complaints take place in the progress of absorp-

* I have called this form of the disease, constitutional; yet it is not strictly so, for every complaint, in consequence of it, is truly local, and is produced by the simple application of the poison to the parts.

tion; these are inflammations and suppurations, forming what are called buboes, in which the matter is of the same nature with that of the original disease.

When the matter has got into the constitution, and is circulating with the blood, it there irritates to action. There are produced from that irritation many local diseases, as blotches on the skin, ulcers in the tonsils, thickening of the periosteum and bones.

The local or first kind is what I have called *immediate*, arising immediately upon the application of venereal pus. Of this kind there are two sorts, seemingly very different from one another. In the first there is a formation of matter, without a breach in the solids, called a gonorrhœa. In the second there is a breach in the solids, called a chancre. Neither of these two ways, in which the disease shows itself, is owing to any thing peculiar in the kind of poison applied; but to the difference in the parts contaminated.

The readiness with which the parts run into violent action, in this species of inflammation, is greater or less, according to the nature of the parts affected; which perhaps does not arise from any specific difference in the parts, but is according to the common principle of sensibility and irritability; for we find, that the vagina is not so disposed to inflammation in this disease as the urethra is in the same sex, because it is not so sensible. However, it is possible, that there may be some specific disposition to irritation and inflammation in the urethra in man; and what would incline me to think so is, that this canal is subject to be more frequently out of order than any other, producing a great variety of symptoms.

SECTION I.

Varieties in different Constitutions.

This disease, when it appears in the form either of a gonorrhœa or a chancre, differs very much in the violence of its symptoms in different peoole. In some it is extremely mild, in others extremely violent. When mild, it is generally simple in its symptoms, having but few, and those of no great extent, being much confined to the specific distance; but when violent, it becomes more complicated in its symptoms, having a greater variety, and extending itself beyond the specific distance. This does not arise from any variety in the specific virtue of the poison, but from a difference in the disposition and mode of action of the body, or parts of the body: some being hardly susceptible of this or any irritation, others being very susceptible of

it, and of every other irritation, so as readily to run into violent action.

The venereal irritation, however, does not always follow these rules; for I have known young men, in whom a sore from common accident has healed up readily, yet the irritation attending a gonorrhœa has been violent, and a chancre has inflamed and spread itself with great rapidity, and even has mortified. On the other hand, I have known young men, in whom a sore from common violence has been healed with great difficulty, yet when they had contracted a gonorrhœa or chancre, the disease has been mild and easily curable.

In particular people it is either mild or severe for the most part uniformly. In the first stated dispositions it is not invariably so; but then I believe there is some indisposition at the time. I have known several gentlemen who had their gonorrhœas so slight in common, that they frequently cured themselves. But it has so happened, that a gonorrhœa has been remarkably severe, and has obliged them to apply for assistance; but then they were soon attacked with the symptoms of a fever, and, when the fever has gone off, the symptoms of the gonorrhœa have immediately become mild. I may now also observe, that, when the disease is in the form of a lues venerea, different constitutions are differently affected. In some its progress is very rapid, in others it is very slow.

Every poison, Mr. Hunter has remarked, has a *specific distance;* that is, besides the immediate breach of the solids, it is found to produce a certain influence to a circumscribed space. The object of nature seems in this case, as well as in the case of adhesions under inflammation from other causes, to protect the rest of the body from the influence of the disease; and it will be found that every morbid poison, in proportion as it preserves those laws by which it is characterized, will define with greater exactness its *specific distance.* The cow-pox is the most striking illustration of this: of perhaps a hundred cases, the appearance will be so similar, that any *one* may serve as a description of the whole; and in all these cases, the specific distance is beautifully marked by the regularly circumscribed areola which extends beyond the elevated cuticle.

If any irregularity occurs in the progress of the disease, one of the first effects is an irregularity in the areola, the edges of which, instead of being circumscribed, are jagged or diffused; that is, the poison no longer preserves its *specific distance.* Small-pox, which will probably hereafter be found to be only a more violent cow-pox, is always more mild in proportion as the *specific distance* is preserved; that is, in proportion as the surrounding inflammation approaches, in appearance, to the areola of cow-pox. Of the distinct small-pox, Sydenham remarks, " the inflammation of the hands and face being come to its height, causes the spaces between the erup-

tions to look of a pretty florid colour, not unlike a damask rose; and in reality the more mild and *genuine* the small-pox is, so much the more the eruptions and their intermediate spaces approach this colour." In the inoculated parts, (and if the eruptions are few on the face,) the redness is easily traced round each; but it is for the most part more shaded and less regular than the true cow-pox areola. To return to Sydenham, speaking of the confluent small-pox, he remarks, " the pustules, especially those in the face, do not rise so high as in the distinct kind; but, *running together*, appear like a red bladder covering the whole face." In these cases we see all *specific distance* is lost. " When mild," says Mr. Hunter, in the passage before us, " it is generally simple in its symptoms, having but few, and those of no great extent, being much confined to the specific distance; but when violent, it becomes more complicated in its symptoms, having a greater variety, and extending itself beyond the specific distance." It is not less curious to trace the uniformity of nature under analogous disease, than the accuracy of philosophical observers, and their mutual agreement under different modes of expressing themselves. This specific distance will occur again when we arrive at chancres.

CHAP. IV.

Of the Lues Venerea being the Cause of other Diseases.

Every animal may be said to have natural tendencies to morbid actions, which may be considered as predisposing causes, and these may be called into action whenever the immediate cause takes place, which may be such as to have no connection with these tendencies, and cannot, therefore, be considered as the cause of the disease. One disease excites another, and therefore is supposed to be the sole cause of it. Thus slight fevers, or colds, small-pox, and measles, become frequently the cause of scrofula; and certain derangements of the natural actions of the body often bring on the gout, agues, and other diseases; but these diseases will be always more or less, according to the constitution and parts; and the constitutions will differ according to circumstances, which may be numerous: two of these, however, will be local situation and age.

In this country the tendency to scrofula arises from the climate, which is in many a predisposing cause, and only requires some derangement, to become an immediate cause, and produce the whole disease.

The venereal disease also becomes often the immediate cause of

other disorders, by calling forth latent tendencies to action. This does not happen from its being venereal, but from its having destroyed the natural actions, so that the moment the venereal action and disposition is terminated, the other takes place; and I have seen in many cases the tendency so very strong, that it has taken place before the venereal has been entirely subdued; for by pursuing the mercurial course, the symptoms have grown worse; but by taking up the new disposition, and rendering it less active than the venereal, the venereal has come into action anew; and these effects have taken place alternately several times. In such cases, it is a lucky circumstance when the two modes of treatment can be united; but where they act in opposition, it is very unfortunate. If the venereal disease attacks the lungs, although that disposition may be corrected, consumption may ensue; and in like manner, where the bones are affected, or the nose, scrofulous swellings, or fistula lacrymalis, may be the consequence, though the disease may have been cured.

Many of the diseases arising from this source appear to be peculiar to such causes, and seem to be formed out of the constitution, the disease, and method of cure. It is therefore difficult to say of what nature such a disease may be; but it will in general have a particular tendency from the constitution; and if we are acquainted with the general tendency of a constitution, we are to suspect that as the strongest cause, and that the disease will partake more of it than the other. In this country these complaints have most commonly a scrofulous tendency, and are often truly scrofulous, the disease partaking more of that disposition than any other.

Parts have also their peculiar tendency to diseases, which are stronger than those of the constitution at large; and when injured they will of course fall into the morbid action, arising from such tendencies. Therefore, when parts have had their natural actions destroyed by a venereal irritation, those tendencies will be brought into action; and therefore, the diseases arising from the tendencies of such parts are to be kept in view. They will be assisted likewise by local situation and age.

In particular countries, and in young people, the tendency to scrofula will be predominant; therefore buboes in them will more readily become scrofulous. In old people they may form cancers; and when in parts of the body which have a particular tendency to cancer, that disease will more readily take place.

The want of knowledge, and of attention to this subject, has been the cause of many mistakes; for whenever such effects have been produced, in consequence of the venereal disease, it has immediately been blamed, and not only as a cause, but it has been supposed to be the disease itself. This is an inference natural enough to those who cannot see that a variety of causes are capable of producing one effect; or, in other words, that where the predisposing cause is the same, a variety of immediate causes may produce the same action.

It shows great ignorance, however, to suppose the venereal disease can be both the predisposing and immediate cause.

When the venereal disease attacks the urethra, it often becomes itself the predisposing cause of abscesses, and many other complaints; when it attacks the outside of the penis, forming chancres, they often ulcerate so deep as to communicate with the urethra, producing fistula in the urethra, and often a continued phymosis.

In describing diseases which, like the venereal disease, admit of a great variety of symptoms, we should keep a middle line, first giving the most common symptoms of the disease in each form; then the varieties which most commonly occur; and last of all the most uncommon: but it will not be easy to take notice of every possible variety. Therefore, when a variety occurs not mentioned, it is not to be supposed, that the author is leading his readers astray, or is unacquainted with the disease at large. If his general principles are just, they will help to explain most of the singularities of the disease.

There is a most unfortunate obscurity in this chapter, for want of a definition of scrofula and of cancer. The whole amounts to this, that in some people sores heal readily; or, as they generally express themselves, they have good flesh to heal; in others the reverse takes place. If in the latter a venereal sore should have existed long, its surface may be so considerable, that, after its venereal disposition is subdued, a very troublesome ulcer may remain, which, if it becomes indolent, may come under the too frequent and vague term of scrofula. If the disease happens to be in the inguinal-glands, the number of parts differently affected from the deep seat of the suppurated gland may produce different actions on different surfaces of the same sore, as will be remarked hereafter; and if the constitution and parts have been perpetually harassed with mercury, the ulcer may become so painful, and for some time so untractable, as to assume all these characters of cancer. But as both scrofula and cancer are terms no where defined in Mr. Hunter's publications, I wish he had never used them.

PART II.

CHAP. I.

Of Gonorrhœa.

When an irritating matter of any kind is applied to a secreting surface, it increases that secretion, and changes it from its natural state (whatever that be) to some other. This, in the present disease, is pus.

When this takes place in the urethra, it is called a gonorrhœa; and as it arises from the matter being applied to a non-cuticular surface, which naturally secretes some fluid, it is of no consequence in what part of the body this surface is; for, if in the anus, it will produce a similar discharge there, and a similar effect on the inside of the mouth, nose, eyes, and ears. It is conceived by some that gonorrhœas may take place without the above-mentioned immediate cause; that is, that they may arise from the constitution; if so, they must be similar to what is supposed to be a venereal ophthalmia. But from the analogy of other venereal affections, proceeding from the constitution, I very much suspect the existence of either the one or the other; for when the poison is thrown upon the mouth, throat, or nose, it produces ulcers, and not an increased secretion, like a gonorrhœa. But we never find an ulcer on the inside of the eye-lids in those ophthalmiæ; and gonorrhœas in the urethra are too frequent to proceed from such a cause.

Till about the year 1753, it was generally supposed, that the matter from the urethra, in a gonorrhœa, arose from an ulcer or ulcers in that passage; but from observation it was then proved that this was not the case.

It may not be improper to give here a short history of the discovery, that matter may be formed by inflammation, without ulceration. In the winter 1749, a child was brought into the room, used for dissection, in Covent Garden; on opening of whose thorax a large quantity of pus was found loose in the cavity, with the surface of the lungs and the plura furred over with a more solid substance similar to coagulable lymph. On removing this from those surfaces, they were found entire. This appearance being new to Dr. Hunter, he sent to Mr. Samuel Sharp, desiring his attendance; and to him it

also appeared new. Mr. Sharp, afterwards, in the year 1750, published his "Critical Inquiry," in which he introduced this fact, "That matter may be formed without a breach of substance;" not mentioning whence he had derived this notion. It was ever after taught by Dr. Hunter in his lectures. We, however, find writers adopting it, without quoting either Mr. Sharp or Dr. Hunter. So much being known, I was anxious to examine, whether the matter in a gonorrhœa was formed in the same way. In the spring of 1753, there was an execution of eight men, two of whom I knew had at that time very severe gonorrhœas. Their bodies being procured for this particular purpose, we were very accurate in our examination; but found no ulceration. The two urethras appeared merely a little blood-shot, especially near the glans. This being another new fact ascertained, it could not escape Mr. Gataker, ever attentive to his emolument, who was then attending Dr. Hunter's lectures, and also practising dissection under me. He published, soon after, in 1754, a treatise on this disease, and explained fully, that the matter in a gonorrhœa did not arise from an ulcer, without mentioning how he acquired this knowledge; and from that time successive writers have repeated the same doctrine. Since the period mentioned above, I have constantly paid particular attention to this circumstance, and have opened the urethra of many who, at the time of their death, had a gonorrhœa, yet have never found a sore in any; but always observed that the urethra, near the glans, was more blood-shot than usual, and that the lacunæ were often filled with matter. I have indeed seen an instance of a sore a little within the urethra; but this sore was not produced by any ulceration of the surface, but from an inflammation taking place, probably, in one of the glans, which produced an abscess in the part, and that abscess opened its way into the urethra. The very same sore opened a way through externally at the frænum, so that there was a new passage for the urine. Indeed the method of curing a gonorrhœa might have shewn that it could not depend upon a venereal ulcer; for there is hardly an instance of a venereal ulcer being cured by any thing but mercury, escharotics excepted. We know, however, that most gonorrhœas are curable without mercury; and, what is still more, without any medical assistance; which, I believe, is never the case with a chancre. This doctrine, that a gonorrhœa does not depend on ulcers, was first taught publicly by Dr. Hunter, at his lectures, in the year 1750; but he did not attempt to account for it.

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To understand this exordium, the reader must observe, that Mr. Hunter is speaking of two modes in which a part may be affected by the venereal disease:—the first is, by the immediate application of the poison taken from a chancre or gonorrhœa; the second, by the poison absorbed from that chancre, and producing its effects in differ-

ent parts of the constitution. The first, he conceives, will produce an increased and altered discharge on any secreting surface to which it is applied. The second, on the contrary, always produces ulceration. Hence a gonorrhœa, he conceives, can never be the effect of the poison absorbed, or, as it is often called, of the constitutional disease, unless the purulent eye is admitted to arise from the constitutional disease. Neither one nor the other seem probable, because the effect of the poison absorbed in other secreting surfaces is always ulceration, as we see in the mouth, throat, or nose.

In the progress of the work it will be seen, that Mr. Hunter proves the matter from the chancre to be different from the matter of the ulcers, produced by absorption, which may account for the different effect of each on secreting surfaces. Mr. Ware, who imputes the purulent eye, in some instances, to the irritation of venereal matter, conceives the matter to be always derived from the primary disease, and not from secondary or constitutional ulcers.

If this passage and the commentary should be found obscure, the reader may pass them over till the subject is renewed, when the secondary symptoms are considered. In the passage before us the theory is, perhaps, too much anticipated for those who have no previous knowledge of it.

The remainder of this section shows, by an illustration which may be called truly practical, the absurdity of making a distinction between pus and mucus, when all the apparent and physical properties are the same. Mucous membranes, in a healthy state, certainly secrete a substance different from the pus of an healthy ulcer; but under disease they secrete a similar substance: that such is the case, as far as the senses are concerned, is evident, from the language used by medical men. When gonorrhœa was supposed to arise from ulcer, the discharge was always called pus; when it was found to exist without ulcer, the name of the discharge was altered, not from any change discovered in its properties, but in order to adopt the language to a theory which required a breach of the solids in order to produce pus.

SECTION I.

Of the Time between the Application of the Poison and Effect.

In most diseases there is a certain time between the application of the cause, and the appearance of the effect. In the venereal disease this time is found to vary considerably, owing probably to the state of the constitution when the infection was received. Each form of the disease also varies in this respect; the gonorrhœa and chancre being

earlier in their appearance after contamination than the lues venerea, and of the two former, the gonorrhœa appearing sooner than the chancre. In the gonorrhœa, the times of appearance are very different. I have had reason to believe, that in some the poison has taken effect in a few hours, while in others it has been six weeks; and I have had examples of it in all the intermediate periods. So far, however, as we can rely upon the veracity of our patients, (and further evidence we cannot have,) six, eight, ten, or twelve days should appear to be the most common period, though it is capable of affecting some people much sooner, and others much later. I was informed by a married gentleman who came from the country, and left his wife behind him, that in a frolic he went to a bagnio, and had connexion with a woman of the town. The next morning he left her, and he had no sooner got to his lodging, than he felt a moisture of the part, and upon inspection he found a beginning gonorrhœa, which proved a very troublesome one. I was told by another gentleman, that he had been with a woman over night, and in the morning the gonorrhœa appeared; and that the same happened to him twice. I was informed by a third gentleman, that the discharge appeared in six-and-thirty hours after the application of the poison. In the above-mentioned patients, the infection must have arisen from the poison applied at those stated times, as neither of these patients are supposed to have had an opportunity of receiving the infection for many weeks before.

These assertions, from men of veracity, and where there could be no temptation to deceive, not even an imaginary one, are sufficient evidences. On the other hand, upon equally good authority, I have been informed, that six weeks had passed, after the application, before any symptom appeared. The patient had strange and uncommon complaints preceding the running, such as an unusual sensation in the parts, with most of the other symptoms of gonorrhœa, except the discharge. He had the same complaint about twelve months afterwards; and then it was four weeks from the application of the poison before it appeared, giving, for some part of that time, the former disagreeable sensations; but from his late experience he suspected what was coming. From this I am inclined to believe, that it seldom or never lies perfectly quiet so long, and that the inflammatory state may take place for some considerable time before the suppurative ; and in these cases there is less disposition for a cure, as the very disposition which forms a running is, in general, a salutary one, and is an intermediate step between the disease, which is the inflammation, and the cure; for in the time of suppuration a change has taken place in the vessels, producing the formation of matter. If this change should never take place, it is not certain what would be the consequence; whether the inflammation would go off without suppuration, as in many common inflammations, I have not been able to determine, but should suspect that it would continue

much longer than usual, because the parts have not completed their actions; and I also suspect that such cases always arise from some peculiarity of constitution.

This uncertainty in the appearance of the disease, after the application of the poison, exists in all the other morbid poisons, though all of them, like the venereal, has a medium, which generally prevails. Inoculation of small-pox, or vaccination, give us the fairest opportunities of observing these varieties. They may sometimes be traced to other indispositions, interfering with the action which the poison applied would otherwise induce; in other instances they are not to be accounted for, but by admitting a peculiarity of constitution.

SECTION II.

Of the Difficulty of distinguishing the Virulent from the Simple Gonorrhœa.

The surface of the urethra is subject to inflammation and suppuration from various other causes besides the venereal poison; and sometimes the discharges happen spontaneously when no immediate cause can be assigned. Such may be called simple gonorrhœas, having nothing of the venereal infection in them; though those persons that have been formerly subject to virulent gonorrhœas are most liable to them. It is given as a distinguishing mark between the simple and the virulent gonorrhœa, that the simple comes on immediately after copulation, and is at once violent; whereas the virulent comes on some days after, and gradually. But the simple is not in all cases a consequence of a man's having had connexion with women, it does not always come on at once, nor is it always free from pain. On the other hand, we see many venereal gonorrhœas that begin without any appearance of inflammation; and I have been very much at a loss to determine whether they were venereal or not; for there are a certain class of symptoms common to almost all diseases of the urethra, from which it is difficult to distinguish the few that arise solely from the specific affection. I have known the urethra sympathize with the cutting of a tooth,* producing all the symptoms of a gonorrhœa. This happened several times to the same patient. The urethra is known to be sometimes the seat of the gout.† I have

* Nat. Hist. of Teeth, pt. II. p. 127.

† Essays and Obs. Phys. and Liter. of Edin. v. III. p. 425.

known it the seat of the rheumatism. The urethra of those who have had venereal complaints, is more apt to exhibit symptoms similar to gonorrhœa, than the urethra of those who have never had any such complaint; and it is generally in consequence of the parts having been hurt by that disease, that the simple gonorrhœa comes on; which, perhaps, is also a reason why they are in some measure similar. A discharge, and even pain attacks the urethra ; and strange sensations are every now and then felt in these parts, which may be either a return of the symptoms of the venereal disease without virus; may arise as it were spontaneously; or may be a consequence of some other disease. When it happens in consequence of some venereal gonorrhœa, it is seldom constant, and may be called a temporary gleet, ceasing for a time and then returning ; but in such cases the parts seldom swell ; the glans does not change to the ripe cherry-colour, nor does it sweat a kind of matter. Such a complaint, as a discharge without virus, is known to exist by its coming on when there has been no late connexion with women, and likewise by its coming on of its own accord where there had never been any former venereal complaint, nor any chance of infection. From its commonly going off soon, both in those who have had connexion with women, and in those who have not, it becomes very difficult in many cases to determine whether or not it is venereal; for it is often thought venereal when it really is not so; and, on the other hand, it may be supposed to be only a return of the gleet, when it is truly venereal; but perhaps this is not so material a circumstance as might at first be supposed. These diseases, when they are a consequence of former venereal complaints, may be considered only as an inconvenience intailed on those who have had the venereal gonorrhœa. No certain cure for them is known; they are similar to the fluor albus in women.

There is not in the whole treatise, a section more necessary to be kept in view than the above. We every day meet with fluor albus in women without suspecting a venereal origin, yet we often reason as if every gonorrhœa in men must be venereal. Hence we are told of the frequency with which gonorrhœa, when communicated, preserves its own form without producing chancre; and it has even been said that the matter of gonorrhœa has been inoculated without producing chancre. All this is highly probable, because we have no means of ascertaining whether these gonorrhœas were venereal; and it is most probable, considering the frequency of that disease before the venereal was known, that the greater number of gonorrhœas are not venereal: but, that some are venereal, and differ only from chancre by the part on which the poison has produced its irritation, has been, I trust, satisfactorily proved.

SECTION III.

Of the common final intention of Suppuration not answering in the present Disease.

When a secreting surface has once received the inflammatory action, its secretions are increased, and visibly altered. Also when the irritation has produced inflammation and an ulcer in the solid parts, a secretion of matter takes place, the intention of which in both seems to be to wash away the irritating matter; so that it is the end of irritations to produce their own destruction, like a mote in the eye, which, by increasing the secretion of tears, is itself washed away. But in inflammations arising from specific or morbid poisons, this effect cannot be produced; for although the first irritating matter be washed away, yet the new matter formed has the same quality with the original; and therefore, upon the same principle, it would produce a perpetual succession of irritations, and of course secretions, even if there were no other cause for the continuance than its own matter. But the venereal inflammation is not kept up by the pus which is formed; but, like many other specific diseases, by the specific quality of the inflammation itself. This inflammation, however, it would appear, can only last a limited time; the symptoms peculiar to it vanishing of themselves by the parts becoming less and less susceptible of irritation. This circumstance is not peculiar to this particular form of the venereal disease; it is perhaps common to almost every disease that can affect the human body. From hence it will appear, that the consequent venereal matter has no power of continuing the original irritation; and indeed, if this were not the case, there would be no end to the disease.

As the living principle in many diseases is not capable of continuing the same action, it also loses this power in the present, when the disease is in the form of a gonorrhœa, and the effect is at last stopped, the irritation ceasing gradually. This cessation will vary according to circumstances; for if the irritated parts are in a state very susceptible of such irritations, in all probability their actions will be more violent and continue longer; but in all cases the difference must arise from the difference in the constitution, and not from any difference in the poison itself.

The circumstance of the disease ceasing spontaneously, only happens when it attacks a secreting surface, and when a secretion of pus is produced; for when it attacks a non-secreting surface, and produces its effects there, that is an ulcer; the parts so affected are capable of continuing the disease, or this mode of action, for ever, as will be taken notice of when we shall hereafter consider chancre. But this difference between spontaneous and non-spontaneous cure, seems

to depend more on the difference in the two modes of action than on the difference in the two surfaces; for when the disease produces an ulcer on a secreting surface, which it often does from the constitution as on the tonsils, it has no disposition to cure of itself; nor in the urethra, in a recent case, if ulcers are formed there, would they heal more readily than when formed in any other part.

The common practice proves these facts. We every day see gonorrhœas cured by the most ignorant; but in chancre, or the lues venerea, more skill is necessary. The reason is obvious: gonorrhœa cures itself, whilst the other forms of the disease require the assistance of art.

It sometimes happens, that the parts, which become irritated first, get well, while another part of the same surface receives the irritation, which continues the disease, as happens when it shifts from the glans to the urethra.

From this circumstance of all gonorrhœas ceasing without medical help, I should doubt very much the possibility of a person getting a fresh gonorrhœa while he has that disease; or of his increasing the same by the application of fresh matter of its own kind. And this observation holds in all the forms of the disease; for it has been proved, that the application of the matter from a gonorrhœa to a bubo does not in the least retard the cure of that bubo; nor does the matter of a chancre applied to a bubo, nor the matter of a bubo applied to a chancre, produce any bad effect; though, if venereal matter is applied to a common sore, it will often produce the venereal irritation. By all which I am led to believe, that the venereal matter formed in a gonorrhœa does not assist in keeping up that gonorrhœa; for it is only an application of matter, the poison and effects of which are exactly similar to the effects upon the solids already produced; and that nothing could increase or continue the effect but something that is capable of increasing the disposition of the parts themselves to such inflammation, or of making them more susceptible of it. We find, besides, that a gonorrhœa may be cured while there is a chancre, and vice versa: now if fresh venereal matter were capable of keeping up the disease, no gonorrhœa could ever get well, while there is this supply of venereal matter.* From all this it is

* When treating of pus, in my lectures, I observed that I was inclined to believe, that no matter, of whatever kind, can produce any effect upon the part that formed it; nor do I believe, that the matter of any sore, let it be what it will, ever does or can do any hurt to that sore; for the parts which formed the matter are of the same nature, and cannot be irritated by that which they produced, except extraneous matter is joined with it. The gland which forms the poison of the viper, and the duct which conveys it to the tooth, are not irritated by the poison: and it would appear, from Abbé Fontana's experiments, that the viper cannot be affected by its own poison. Vide Traité sur le Vènin de la Vipere, par M. F. Fontana, vol. I. page 22. If what I have now advanced is true, taking, or washing away matter under the idea of keeping the parts clean, is in every case absurd.

reasonable to suppose, that such a surface of an animal body is not capable of being irritated beyond a certain time; and therefore, if fresh venereal matter were continued to be applied to the urethra of a man having a gonorrhœa, that it would go off as soon as if no such application had been made, and get as soon well as if great pains had been taken to wash its own matter away. The same reasoning holds good in chancres.

I carry this idea still further, and assert, that the parts become less susceptible of the venereal irritation; and that not only a gonorrhœa cannot be continued by the application of either its own or fresh matter; but that a man cannot get a fresh gonorrhœa, or a chancre, if he applies fresh venereal matter to the parts when the cure is nearly completed, and continues the application ever after, or at least at such intervals as are within the effect of habit. I can conceive, that in time the parts may become so habituated to this application as to be insensible of it; for by a constant application, the parts would never be allowed to forget this irritation, or rather never become unaccustomed to it; and therefore this supply of fresh matter could not affect the cure so as to renew the disease, till they first recovered their original and natural state; and then they would be capable of being affected again.

This opinion is not derived from theory only, but is founded on experience and observation. A man, immediately after having suffered a gonorrhœa, shall have frequent connections with women of the town, and that for years successively, without being infected; yet a fresh man shall contract it immediately, from the very same woman; and if the first-mentioned man were to be out of the habit of this irritation for some time, he would then be as easily infected as the other. Where this habit is not so strong as to prevent altogether the parts from being affected, still it will do it in part; and it is a strong proof of this, that most people have their first gonorrhœa the most severe, and the succeeding ones generally become milder and milder, till the danger of infection almost vanishes.

This seems to be explained by the following facts. A married man, who had had a communication with his wife only for several years, slept with a woman with whom he had formerly cohabited. She gave him a severe gonorrhœa, and declared that she was not conscious of being diseased. He put himself and her under my care; and while they were going on with their cures they still continued their intercourse, which I readily allowed. He got well, and it was supposed she got well also. The intercourse was continued between them for many months after, without any mischief received on his side, or any suspicion of remaining disease on hers. At last this connection was broken off; and she formed another attachment: she no sooner formed this new attachment than she gave her new lover a gonorrhœa; she now flew to me for a cure, and declared that she had no connection but with the two gentlemen before mentioned, and

therefore that the present disease must be the same for which I had attended her formerly. Her second lover was not a patient of mine; but I gave her medicines which she very much neglected to take. Her lover continued his connection, as the first had done, for several months after he had got well, without any further infection from her; but unfortunately her first lover returned about a twelvemonth after; and, thinking himself secure, as she lived in peace with the present, renewed his acquaintance with her, and but once. The consequence, however, was a gonorrhœa.

Had the woman the gonorrhœa all this time? And what was the reason why those gentlemen did not catch the disease, except after that the acquaintance had been interrupted for some time? Was it the effect of habit, by which the parts lost their susceptibility of that irritation?

The case of a young woman from the Magdalen hospital is a striking proof of this, as far as circumstances can prove a fact. She was received into that house, and continued the usual time, which is two years. The moment she came out, she was picked up by one who was waiting for her with a post-chaise to carry her off immediately. She gave him a gonorrhœa.

This opinion of parts being so habituated to this irritation as hardly to be affected by it, is strengthened by observing, that in the gonorrhœa the violent symptoms shall often cease, and the disease shall still continue, spinning itself out to an amazing length, with no other symptoms than a discharge; yet that discharge shall be venereal. This I have frequently seen; and the following is an abstract of a singular case of this kind.

A gentleman had connection with a woman of the town, and received a venereal gonorrhœa in the beginning of April, 1780. He, at first, could hardly believe it to be venereal, as he had kept the woman in the country, where she had scarcely ever been out of his sight; but the violent pain in making water, great running, chordee, and swelled testicle, convinced him that it was venereal. When the cure was going on tolerably well, and he had got the better of one swelled testicle, the other began to swell; however, all the symptoms gradually disappeared, except the chordee, hardness of the epididymis, and a small gleet which was slimy. On the 12th of June he went into the country; while he was in the country the chordee went off, and the hardness of the epididymis entirely disappeared; but still a slimy gleet remained, although but trifling.

September the first, he married a young lady, and endeavouring to enter the vagina, he found great difficulty, which brought on a return of the chordee, and an increased discharge. On the tenth, she began to complain of heat and pain, and of a difficulty and frequency in making water; and when she made water there was forced out some matter; she had also a dull heavy pain, and a sense of weight at the bottom of her belly, and round her hips, with great

soreness of the parts when she sat. These symptoms had been preceded by an itching about the orifice of the vagina.

By taking a mercurial pill, and rubbing the parts with mercurial ointment, in about eight days the violence of the symptoms abated. They were now allowed to cohabit; but whenever they came together, the pain which she suffered was excessive. The parts were washed with a solution of corrosive sublimate and sugar of lead, and anointed with mercurial ointment; which applications being continued for some time, the soreness went off. He was treated medically; and afterwards all was well.

Here was a venereal gonorrhœa contracted about the beginning of April; all the symptoms had disappeared by the first of June, and there only remained some of the consequences, such as chordee, hardness of the epididymis, and a discharge of a little slimy mucus, which could only be observed in the morning. In a short time the chordee and hardness in the epididymis had entirely gone off, and merely the small discharge of mucus, which appeared only in the morning, remained; yet three months after he communicated the disease to his wife.

I was consulted in the following case by a surgeon who attended: July 13th, 1783, a person had connection with a woman of the town: the 30th, that is, seventeen days after, a gonorrhœa came on, which was violent. He took mercurial pills and gentle purges. In twelve days the violent symptoms abated, and about the 4th of September the discharge was stopped. On the 9th it began to appear again, but only lasted a few days; and would come and go in this way sometimes every two days, often six or seven days. On the 28th of September he had connection with his wife, while he had a small discharge. The 9th of October he had connection again; and three days after she complained of heat in making water, with a discharge and other symptoms of gonorrhœa which were violent. About the latter end of October her complaints were almost removed; some only of the symptoms appearing and disappearing till January, 1784, when he had connection with her to try whether she could give it him, *viz.* three months after the second connection; and in fourteen days after this he had all the symptoms of a gonorrhœa. April 29, he was not perfectly well, having a discharge, with a pain in the perinæum; and she also had a discharge. If this last attack, in January, 1784, in him was a gonorrhœa, then of course she must have had it; and also of course he must have lost his in the intermediate time, between the 9th of October, 1783, and January, 1784; for if he had had it also then, it could not have produced any effect upon him.

It was impossible to say whether they had now the infection or not, for any trials upon themselves would prove but little, except one of them only had it so as to infect the other; but if both had it, no alteration could take place in either; as it could not be ascertained whether they had the disease or not; and as there were suspicious

symptoms in both, when joined with all the circumstances, I agreed with the attending surgeon, that it was most prudent to treat them as if actually affected with a gonorrhœa.

If it is true, as is asserted in the voyage round the world, that the venereal disease was carried to Otaheite, it shows that it can be long retained after all ideas of existence have ceased; and when it is retained for such a length of time, it is most probably in the form of a gonorrhœa.*

In like manner, a venereal bubo, if it could be kept a considerable time between the point of suppuration and resolution, would become indolent from habit, continue in that point of suspension, and remain perhaps almost incurable. Such, I think, I have seen.

In considering common inflammation from whatever cause we have seen, that all the various processes are such as are directed towards the preservation and restoration of the part or whole constitution. If inflammation occurs on a secreting surface, forming a canal, its secretion is increased, and by degrees altered to a bland substance called pus, after which it gradually subsides. If the inflammation is in a solid part, or in viscera lined with membranes, adhesion takes place to prevent the spreading of the disease; and if the cause ceases, and the first inflammation was not particularly violent, the disease does not spread, but gradually subsides. But if the same cause which first induced the inflammation continues, or if the first inflammation produced so great a change in the parts that they cannot return to their original mode of action, suppuration must follow, which goes through the stages before described; after which the mucous membrane returns to its natural secretion, and the injured part of the solids being removed by ulceration, is restored by granulation and cicatrization. But if either of these parts is inflamed by the irritation from a morbid poison, that irritation must continue so long as the parts are susceptible of the impression from that cause. Of the small-pox the constitution is not susceptible after having gone through a certain process. The pustules, therefore, readily heal whilst the matter which excited the disease remains upon them. But of the venereal disease the constitution is always susceptible, and the action excited by it continues till altered by another and more violent irritation.

Hence the process of inflammation and suppuration, which is sufficient to relieve other irritations, is not sufficient to relieve a part from the irritation of the venereal poison, but the action which it has excited continues.

Mr. Hunter has, I think, very fairly assumed that the irritation is not kept up by the matter secreted. However that may be, it is sufficient at present to state, what is pretty universally admitted, that the

* Vide page 23.

constitution has no power in itself of altering the venereal action when once it is set up. Hence a venereal ulcer or gonorrhœa should continue till a new irritation is excited, so violent as to supersede it. In gonorrhœa, he seems to think, the irritation may cease spontaneously. But this does not appear to me proved. Gonorrhœa, arising from other causes, and those causes are very numerous, may cease like other inflammations on mucous membranes. But in venereal gonorrhœa, though the parts may be so accustomed to the irritation that the pain may cease, yet it is by no means ascertained that the discharge, however small in quantity, or altered in appearance, may not retain its virulent properties, that is, that the disease has spontaneously ceased. Even the cases mentioned by Mr. Hunter in this section, without regarding Otaheite, prove the uncertainty of the cessation of the disease.

These cases all show the great length of time that gonorrhœa may continue almost unobserved, yet retain its virulence. They therefore render the question at least uncertain, whether the true venereal gonorrhœa ever wears itself out. At the same time it may be enough to remark that so many means of cure may occur, without being observed, that the question must come before us again when we arrive at the "cure of gonorrhœa."

SECTION IV.

Of the Venereal Gonorrhœa.

In treating of the seat, extent, and symptoms of gonorrhœa, I shall begin with such particulars as are constant or most frequent, and take them as much as possible in the order they become less so, for there is a considerable variety in different gonorrhœa.

SECTION V.

Of the Seat of the Disease in both Sexes.

The seat of this disease, in both sexes, is commonly the parts of generation. In men it is generally the urethra; though it sometimes takes place on the inside of the prepuce and surface of the glans. In women it is the vagina, urethra, labia, clitoris, or nymphæ.

The disease has its seat in these parts from the manner in which it is caught. But if we were to consider the surface of contact simply in men, we should naturally suppose that the glans-penis, or the orifice of the urethra, would be the first, or indeed the only parts affected; yet most commonly they are not; for though there are cases where the glans is affected, and where the disease goes no further, I believe it seldom attacks the orifice of the urethra, without passing some way along that canal. How far it can ever be said to affect the prepuce only, I am not quite certain., although I believe it sometimes happens; for I have seen inflammation there, as well with, as without, a discharge from the urethra, which appeared to me to be venereal. I have seen, in such cases, the inflammation extending into the loose cellular membrane of the prepuce, and producing a phymosis; and this inflammation I suspect to be of the erysipelatous kind.

When the disease attacks the glans, and other external parts, as, for instance, the prepuce, it is principally about the root of that body, and the beginning of the prepuce, the parts where the cuticle is thinnest, and of course where the poison most readily affects the cutis; but sometimes it extends over all the glans and also the whole external surface of the prepuce. It produces there a soreness or tenderness, with a secretion of thinnish matter, commonly without either excoriation or ulceration. I am not certain, however, that it does not sometimes excoriate those parts; for I once saw a case, where almost the whole cuticle was separated from the glans. The patient assured me that it was venereal; and from the particular circumstances which he had related, I had no reason to think his opinion ill founded. He never had had any such complaint from connection with women before that time. Perhaps the disease begins oftener on those parts than is commonly imagined; but, being defended by a cuticle, they are but little susceptible of this kind of irritation; and this may be the reason why a permanent effect is not produced, and why it is often so slight as not to be observed. When the glans or prepuce, or both, suffer the venereal inflammation, it often rests there and goes no further, not being attended with a discharge of matter, nor with pain in the urethra. This the following case illustrates:

A young gentleman, from Ireland, slept with a woman at Bristol; and a fortnight afterwards he had intercourse with another woman in London, which last happened to be on a Monday, and on the Tuesday, or the day following, he observed a discharge from the end of his penis when covered with the prepuce. On the Saturday following he applied to me. Upon examination, I found that the running came from the inside of the prepuce, near to the glans; and the corona glandis, as also that part of the prepuce which is behind it, appeared to be in a tender and excoriated state, and covered with matter. He told me he had once had a gonorrhœa before; and upon being asked if it was in the same place, he said it was. Not being certain how far this might be venereal, I made the following inquiry;

whether he had been subject to such excoriations before he had visited women? And his answer was, that he never had; and that he had not this complaint always after coition, but only twice as has been abovementioned; which, being uncommon, inclined him to suppose the effect to be venereal.

I suspect, that, when the prepuce swells in a gonorrhœa of the urethra, producing a phymosis, which is often the case, it arises from the same disease having affected its inside, and that, not being sufficient to produce ulceration, it goes no further. It seems probable that this inflammation is of the erysipelatous kind; a circumstance very necessary to be known in the cure.

The urethra is the part in which this form of the venereal disease is most frequent; and, although the inflammation, attending the disease in this part, has many of the common symptoms of inflammation, yet it can hardly be called inflammatory, when moderate; at least it does not constantly produce all the effects of common inflammation, though there is a tendency towards it. The parts seldom have all the characteristic symptoms; for there is no throbbing sensation; there is but little pain, except from the irritation of the urine and distention of the parts; the inflammation seldom goes deeper than the surface; and we have therefore rarely any tumefaction or thickening of the parts. It should rather seem to be an error loci on the surface of the urethra, like a blood-shot eye.

The secretion of pus with so little inflammation, is perhaps owing to these parts being naturally in a state of secretion; therefore the transition from an healthy to a diseased secretion is more easily produced. It sometimes happens, however, that the parts do inflame considerably, and the inflammation goes deep into the cellular, or rather reticular membrane of the corpus spongiosum urethræ, especially near the glans. Sometimes it extends further along the corpus spongiosum urethræ, producing tumefaction, that is, an extravasation of the coagulable lymph, which is the common cause of chordee. It may be observed, in general, that in most cases when suppuration is produced, there is a decrease of inflammation. The inflammation in the reticular membrane of the surrounding parts would appear not to be always confined to the adhesive stage; for in those parts we have sometimes suppurations, especially in the perinæum, which suppurations I suspect to be in the glands, as will be taken notice of hereafter.

The gonorrhœa does not always attack an urethra otherwise sound; nor does it always attack an urethra the relative parts of which are always sound. Thus we find people contracting this disease while they are affected with strictures, a swelled prostate gland, as also diseased testicles, or such testicles as very readily run into disease; by which the malady becomes more complicated, and requires more attention in the method of cure. Sometimes such diseases are relieved by the gonorrhœa, at other times increased.

SECTION VI.

Of the most Common Symptoms, and the Order of their Appearance.

ALTHOUGH the irritation must always begin first, yet it is not certain which of the symptoms, in consequence of that irritation, will first appear; for any one may appear singly without the others, though this is rarely the case. The first symptom, when carefully attended to, is generally an itching at the urethra, sometimes extending over the whole glans;* a little fulness of the lips of the urethra; the effects of inflammation are next observable, and soon after a running appears; the itching changes into pain, more particularly at the time of voiding the urine; there is often no pain till some time after the appearance of the discharge, and other symptoms; and in many gonorrhœas there is hardly any pain at all, even when the discharge is very considerable; at other times a pain, or rather a great degree of soreness, will come on long before any discharge appears.

There is generally at this time a greater fulness in the penis, and more especially in the glans, although it is not near so full as when erected, being rather in a state of half-erection. Besides this fulness, the glans has a kind of transparency, especially near the beginning of the urethra, where the skin is distended, being smooth and red, resembling a ripe cherry; this is owing to the reticular membrane, at this time loaded with a quantity of extravasated serum, and the vessels filled with blood. Near the beginning of the urethra there is in many cases an evident excoriation, which is marked by the termination of the cuticle all around. The surface of the glans also is often in an half-excoriated state, which gives it a degree of tenderness; and there oozes out from it a kind of matter, as has been before observed. The canal of the urethra becomes narrower, which is known by the stream of the urine being smaller than common. This proceeds from the fulness of the penis in general, and from the internal membrane of the urethra being swollen by the inflammation, and also from its being in a spasmodic state. Besides these changes, the fear of the patient, whilst voiding his urine, assists in diminishing the stream of urine. The stream, as it flows from the urethra, is generally much scattered and broken as soon as it leaves the passage, which is owing to the internal canal having become irregular, and is not peculiar to a venereal gonorrhœa, but common to every disease of the urethra, that alters the exact and natural figure of the canal,

* These symptoms are most carefully observed by those who are under apprehensions of having the disease, and therefore are attentive to every little sensation about those parts.

even although the irregularity is very far back. This we find in many diseased prostate glands.

There is frequently some degree of hæmorrhage from the urethra. This I suppose arises from the distention of the vessels, more especially when there is a chordee, or a tendency to one.

There are often small swellings observable along the lower surface of the penis in the course of the urethra. These, I suspect, are the glands of the urethra so enlarged as to be plainly felt on the outside. They inflame so much in some cases as to suppurate; and, according to the laws of ulceration, the matter is brought to the skin, forming one, two, or more abscesses along the under surface of the urethra, and some of these breaking internally, form what are called internal ulcers. I have observed in several cases a tumour on the under side of the penis, where the urethra is, which would swell at times very considerably, even to the size of a small flattened nut, inflame, and then, a gush of matter flowing from the urethra, would almost immediately subside. The discharge has continued for some time, gradually diminishing till it has entirely gone off, and the tumour has been almost wholly reduced; yet after some months it has swelled in the same manner again, and terminated in the same way. How far these tumours, and the matter they discharge, are really venereal when they appear first, may be doubtful; and it is difficult to determine this, for the patients in general have recourse to medicine immediately; but in their subsequent attacks they are certainly not venereal, for they cure themselves.

I have suspected these tumours to be the ducts or lacunæ of the glands of the urethra distended with mucus, from the mouth of the duct being closed in a manner similar to what happens to the duct leading from the lachrymal sack to the nose; and in consequence of the distention of the ducts or lacunæ, inflammation and suppuration come on, and ulceration takes place, which opens a way into the urethra; but this opening soon closes up and occasions a return. Cowper's glands have been suspected to inflame, and hardness and swelling have been felt externally very much in the situation of them, which, coming to suppuration, have produced considerable abscesses in the perinæum. These tumours break either internally or externally, and sometimes in both ways, making a new passage for the urine, called fistulæ in perinæo.

A soreness is often felt by the patient all along the under side of the penis, owing to the inflamed state of the urethra. This soreness often extends as far as the anus, and gives great pain, principally in erections; yet it is different from a chordee, the penis remaining straight.

Erections are frequent in most gonorrhœas. These, arising from the irritation at the time, often approach to a priapism, especially when there is the above-mentioned soreness, or when there is a chordee.

Priapisms often threaten mortification in men; and I have seen an instance of it in a dog. The erection never subsided, and the glans penis could not be covered by the prepuce, from the swelling of the bulb. The penis mortified and dropped off; the bone in it was denuded, and an exfoliation followed. As opium is of great service in priapism, there is reason to suppose the complaint is of a spasmodic nature.

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Nothing can exceed the accuracy or minuteness of description in this and the subsequent paragraphs.

SECTION VII.

Of the Discharge.

The natural slimy discharge from the glands of the urethra is first changed from a fine transparent ropy secretion, to a watery, whitish fluid; and the natural exhaling fluid of the urethra, which is intended for moistening its surface, and which appears to be of the same kind with that which lubricates cavities in general, becomes less transparent; and both these secretions becoming gradually thicker, assume more and more the qualities of common pus. In some cases of gonorrhœa, the glands that produce the slime, which is secreted in consequence of lascivious ideas, are certainly not affected; for I have seen cases, when, after the passages had been cleared of the venereal matter by making water, the pure slime has flowed out of the end of the penis on such occasions. When this matter is more in quantity than what lubricates the urethra, it is forced out of the orifice by the peristaltic action of that canal, and appears externally.*

The matter of gonorrhœa often changes its colour and consistence, which is owing to the disposition of the parts which form it; sometimes from a white to a yellow, and often to a greenish colour. These changes depend on the increase or decrease of the inflammation, and not on the poisonous quality of the matter itself; for any irritation on these parts, equal to that produced in a gonorrhœa, will produce the same appearances; and the changes in the colour of the matter are chiefly observable after it has been discharged upon a cloth and be-

* That the urethra has considerable powers of action is evident in a vast number of instances; and that action is principally from behind forwards. We find that a bougie may be worked out by the action of the urethra. This action, I believe, is often inverted, as in spasmodic stranguries [and also when bougies have been retracted into the urethra. A].

come dry. The appearance upon the cloth is of various hues; in the middle the matter is thicker or more in quantity, and it is therefore generally of a deeper colour; the circumference is paler, because the watery or serous part of the matter has spread further, and at the outer edge of all it is darkest; this last appearance is owing to its being only water with a little slime, in which some of the tinge is suspended; which, when dry, gives a transparency to the part, that takes off from the white colour of the linen. It is very probable that there is a small extravasation of red blood in all the cases where the matter deviates from the common colour, and to this the different tinges seem to be owing. As this matter arises from a specific inflammation, it has a greater tendency to putrefaction than common matter from a healthy sore, and has often a smell seemingly peculiar to itself.

As it should appear that there is hardly a sufficient surface of the urethra inflamed to give the quantity of matter that is often produced, especially when we consider that the inflammation does in common go no further than two or three inches from the external orifice, it is natural to suppose that the discharge is produced from other parts, the office of which is to form mucus for natural purposes, and which are therefore more capable of producing a great quantity upon slight irritations, which hardly rise to inflammation. These parts, I have observed, are the glands of the urethra. In many cases where the glands have not been after death so much swelled as to be felt externally; and where I have had an opportunity of examining the urethra of those who have had this complaint upon them, I have always been able to discover, that the ducts or lacunæ leading from them have been loaded with matter, and more visible than in the natural state. I have observed, too, that the formation of the matter is not confined to these glands entirely; for the inner surface of the urethra is commonly in such a state as not to suffer the urine to pass without considerable pain; and therefore most probably this internal membrane is also affected in such a manner as to secrete a matter.

This discharge in common cases should seem not to arise much further back in the urethra than where the pain is felt, although it is commonly believed that it comes from the whole of the canal, and even from Cowper's glands and the prostate, and even what are called the vesiculæ seminales.* But the truth of this I very much doubt. My reasons for supposing that it comes only from the surface, where the pain is, are the following: If the matter arose from the whole surface of the urethra, and from the glands near the bladder, there would certainly be many other symptoms than do actually occur; for instance, if all the parts of the urethra beyond the bulb, or

* Those bags are certainly not reservoirs for the semen. The difference between the contents of them and the semen gave me the first suspicion of this; and from several experiments on the human body, as also a comparative view of them in other animals, I have been able to prove that they are not.

even in the bulb, were affected so as to secrete matter, that matter would be gradually squeezed into the bulb as the semen is, and from thence it would be thrown out by jerks; for we know that nothing can be in the bulbous part of the urethra, without stimulating it to action, especially when in a state of irritation and inflammation. In such a state we find that even a drop of urine is not allowed to rest there; and also if an injection of warm water only is thrown into the urethra as far as the bulb, the musculi acceleratores are uneasy till they act, and throw it out. Hence it is natural to suppose, that, if the membranous and bulbous part of the urethra, with the vesiculæ seminales, prostate, and Cowper's glands, assisted in forming the matter, whenever it collected in the bulb, it would probably be immediately thrown forwards by the muscles above mentioned, and we should be sensible of it every moment of the day. But such symptoms are seldom observed. Sometimes, indeed, a spasmodic contraction of these muscles occurs, which may probably arise from this cause, though it is more frequently felt immediately after the urine is discharged.

When the inflammation is violent, it often happens that some of the vessels of the urethra burst, and a discharge of blood ensues, which is in greater quantity at the close of voiding urine. This, however, happens at other times, and generally gives temporary ease. Sometimes this blood is in small quantity, and only gives the matter a tinge; as I observed when treating of the colour of the discharge. The erections of the penis often stretch the parts so much as to become a cause of an extravasation of blood. This extravasation generally increases the soreness at the time of emptying the bladder, and in such a state of parts the urethra is usually sore when pressed; yet the bleeding diminishes the inflammation, and often gives ease.

SECTION VIII.

Of the Chordee.

The chordee appears to be *inflammatory* in some cases, and *spasmodic* in others; we shall treat first of the inflammatory chordee.

When the inflammation is not confined merely to the surface of the urethra and its glands, but goes deeper and affects the reticular membrane, it produces in it an extravasation of coagulable lymph, as in the adhesive inflammation, which, uniting the cells together, destroys the power of distention of the corpus spongiosum urethræ, and make it unequal in this respect to the corpora cavernosa penis, and therefore a curvature takes place in the time of erection, which

is called a chordee. The curvature is generally in the lower part of the penis, arising from the cells of the corpus spongiosum urethræ having their sides united by adhesions. Besides this effect of inflammation, when the chordee is violent, the inner membrane is, I suppose, so much upon the stretch, as to be in some degree torn, which frequently causes a profuse bleeding from the urethra, that often relieves the patient, and even sometimes proves the cure. As chordee arises from a greater degree of inflammation than common, it is an effect which may, and often does, remain when all infection is gone, being merely a consequence of adhesive inflammation.

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This explanation of chordee is perfectly consistent with our knowledge of the process of inflammation. If adhesions have taken place in the neighbourhood of the urethra, to prevent the spreading of the inflammation, the net-work, which should adapt itself to the quantity of blood it receives during erection, has become more rigid. The inconvenience arising from this will not be perceived in the relaxed state of those parts, but when turgid with blood, it must render such turgescence unequal, and by stretching the more rigid or adherent cells, must produce pain. As these adhesions continue for some time after the inflammation has ceased, so chordee is a common sequela of gonorrhœa, especially in young subjects, or in those to whom the venereal infection is new, and the inflammation great in proportion. The disease can only be removed by the absorption of the extravasated lymph, or by the elongations of the connecting fibres, either of which processes must be slow.

There is an obscurity in the concluding three lines of this section, arising, I suspect, from some error in the punctuation. It is also worthy of remark, that Mr. Hunter gives no account of spasmodic chordee.

SECTION IX.

Of the Manner in which the Inflammation attacks the Urethra.

In what manner the disease extends itself to the urethra, is a question not yet absolutely determined. I suspect that it is communicated, or creeps along from the glans to the urethra, or at least from the beginning or lips of the urethra to its inner surface; because it is impossible to conceive, that any of the venereal matter from the woman can get into the canal during coition, although the contrary is commonly asserted. It is impossible at least that it can get so far as the common seat of the disease, or into those parts of

the urethra where it very often exists, that is, through the whole length of the canal. The following case amounts to a proof of this opinion.

A gentleman, on whose veracity I have an entire confidence, when in Germany, where he had not lain with a woman for many weeks, sat in a necessary-house some time. Upon arising, he found something that seemed to give the glans penis a little sharp pull, and he found a small bit of the plaster of the necessary-house sticking to it. He paid no further attention to it at that time than merely to remove what stuck to his penis; but five or six days after, he observed the symptoms of a clap, which proved a pretty severe one. The only way of accounting for this is, that some person who had a clap had been there before him, and had left some venereal matter upon this place, and that the penis had remained in contact with it a sufficient time for the matter to dry.

When the disease attacks the urethra, it seldom extends further than an inch and a half, or two inches at most, within the orifice, which distance appears to be truly specific, and what I have called the specific extent of the inflammation.*

As the cause of a gonorrhœa is commonly an inflammation, it is accompanied with pain and the formation of matter. In such a state neither the sensations of the patient, nor the actions of the parts themselves, are confined to the real seat of the disease. In consequence of the neighbouring parts sympathizing, a variety of symptoms are produced, many of which do not exceed what might arise from an irritable state; an uneasiness partaking of soreness and pain, and a kind of weariness, are every where felt about the pelvis: the scrotum, testicles, perinæum, anus, and hips, become disagreeably sensible to the patient; and the testicles often require being suspended; and so irritable are they indeed in such cases, that the least accident, or even exercise, which would have no such effect at another time, will make them swell. The glands of the groin are often affected sympathetically, and even swell a little, but do not come to suppuration. When they inflame from the absorption of matter, they in general suppurate. I have seen cases where the irritation has extended so far as to affect with real pain the thighs, the buttocks, and the abdominal muscles, so that the patient has been obliged to lie quiet in a horizontal position. The pain has at times been very acute, and the parts have been very sore to the touch: they have even swelled, but the swelling has not been of the inflammatory kind; for, notwithstanding a visible fulness, the parts have been rather soft. I knew one gentleman who never had a gonor-

* It is to be here remarked, that specific diseases, among which I shall reckon such as arise from morbid poisons, have their specific distance or extent as one of their properties; but this can only take place where the constitution is not susceptible of erysipelas, or any other uncommon mode of action; for where there is an erysipelatous disposition no bounds are set to the inflammation.

rhœa, but that he was immediately seized universally with rheumatic pains. This had happened to him several times. The blood at such times is generally free from the inflammatory appearance, and therefore we may suppose that the constitution is but little affected.

When the gonorrhœa (exclusive of the affections arising from sympathy) is not more violent than I have described, it may be called *common* or *simple* venereal gonorrhœa; but if the patient is very susceptible of such irritation, or of any other mode of action which may accompany the venereal, then the symptoms are in proportion more violent. In such circumstances we sometimes find the irritation and inflammation exceed the specific distance, and extend through the whole of the urethra. There is often also a considerable degree of pain in the perinæum, and a frequent, though not a constant, symptom is a spasmodic contraction of the acceleratores urinæ, which is always attended with contractions of the erectores muscles. Whether these spasms arise from a secretion of matter, which, being collected in the bulbous part of the urethra, produces uneasiness, and excites contractions in order to its own expulsion, like the last drops of urine, I have not been able to determine. I have seen such spasms in the time of making water, from the urine irritating the parts in its passage through the urethra, and throwing the musculi acceleratores into contractions, so that the water has come by jerks. This kind of inflammation sometimes is considerable, goes deep into the cellular membrane, and produces tumefaction without any other effect. In other cases it goes on to suppuration, often becoming one of the causes of fistulæ in perinæo. I have sometimes, as I have already observed, suspected Cowper's glands to be the seat of such suppurations; for I have observed externally, circumscribed swellings in the situation of those glands. The small glands likewise of the bulbous part of the urethra may be affected in a similar manner; and the irritation is often extended even to the bladder itself.

When the bladder is affected, it becomes more susceptible of every kind of irritation, so that very disagreeable symptoms are often produced; it will not allow of the usual distention, and therefore the patient cannot retain his water the ordinary time; and the moment the desire of making water takes place, he is obliged instantly to make it with violent pain in the bladder, and still more in the glans penis, exactly similar to what happens in a fit of the stone. If the bladder be not allowed to discharge its contents immediately, the pain becomes almost intolerable; and even when the water is evacuated there remains for some time a considerable pain both in the bladder and glans; because the very contraction of the muscular coat of the bladder becomes a cause of pain.

The ureters, and even the kidneys sometimes sympathize, when the bladder is very much inflamed, or under a considerable degree of irritation; however this but rarely happens. I have even reason to suspect that the irritation may be communicated to the peritonæum

by means of the vas deferens. This suspicion receives some confirmation from the following history. A gentleman had a gonorrhœa which was treated in the antiphlogistic way. The discharge being in some degree stopped, a tension came upon the lower part of the belly on the right side, just above Poupart's ligament, but rather nearer to the ilium. There was hardness and soreness to the touch, which soreness spread over the whole belly, producing rigors every third day, with a low pulse, which to me indicated a peritonæal inflammation, arising, in my opinion, from the vas deferens of that side being affected in its course through the belly and pelvis.

When the inflammation, or perhaps only the irritation, runs along the whole surface of the urethra, attacks the bladder, and even extends to the ureters and the kidneys, so as to cause a disagreeable sensation in all these parts, the disease is generally very violent, and, I suspect, is something of the erysipelatous kind. At least it shows an irritable sympathizing habit.

This disease sometimes produces very uncommon symptoms. A gentleman had a gonorrhœa; and, when the inflammatory symptoms were abating, the urethra lost both the involuntary and voluntary powers of retaining the urine. His water came away involuntarily; nor could he stop it. I advised him to do nothing, and to wait for some time, as probably the method of cure might be more disagreeable than the disease itself, although it was very troublesome to him when in company. The complaint gradually lessened, and in time went entirely off.

The case in the second paragraph of this section would show, that gonorrhœa may be occasioned by matter applied only to the glans penis; but it does not necessarily follow, that infectious matter never proceeds higher; however, that it does not, almost amounts to proof; because, during the usual process of the *actus coccus*, the expulsive power of the urethra is never inverted without disease; and, without this inversion, matter could not advance up that canal.

By the paragraph to which the note is annexed, we see the specific distance marked, which under common degrees of inflammation is preserved, unless the kind of inflammation should, from some peculiarity of constitution, be changed from the adhesive. The subsequent paragraph refers only to sympathetic affections not partaking of inflammation.

After which, Mr. Hunter shews, that the consequence of very high inflammation, whether erysipelatous or not, may be sufficient to destroy the specific distance to which the constitution can at other times confine the irritation from this poison. This has been already illustrated by the effects of greater or less violent inflammation in small-pox.

SECTION X.

Of the Swelled Testicle.

A VERY common symptom attending a gonorrhœa is a swelling of the testicle. This, I believe, like the affection of the bladder, and many of the symptoms mentioned before, is only sympathetical, and not to be reckoned venereal, because the same symptoms follow every kind of irritation on the urethra, whether produced by strictures, injections, or bougies. It may be observed here, that those symptoms are not similar to the actions arising from the application of the true venereal matter, whether by absorption or otherwise; for they seldom or ever suppurate; and when suppuration happens, the matter produced is not venereal.

The testicles seem, as it were, in many cases, rather to be acting for the urethra, than for themselves, which is an idea applicable to all sympathies. Thus the swelling and inflammation appears suddenly, and as suddenly disappears, or in a few minutes goes from one testicle to the other; the affection depending upon the state of the urethra, and not at all upon the part itself. A part, however, of the testicle, the epididymis, assumes all the characters of inflammation, remaining swelled even for a considerable time after the inflammation has subsided.

The first appearance of swelling in the testicle is generally a soft pulpy fulness of the body of the testicle, which is tender to the touch; this increases to a hard swelling, accompanied with considerable pain. The hardest part is generally the epididymis, and principally that portion of it which is at the lower end of the testicle, as may be distinctly felt. The hardness and swelling, however, often run the whole length of that body, and form a knob at the upper part. The spermatic cord is likewise often affected, and more especially the vas deferens, which is thickened and sore to the touch. The veins of the testicle sometimes become varicose. I have seen such a state of veins accompanying a swelling of the testicle in two instances. A pain in the small of the back generally attends inflammations of the testicle of all kinds, with a sense of weakness of the loins and pelvis. The bowels generally sympathize with most complaints of the testicle, in some by cholicky pains, in others by an uncommon sensation both in the stomach and intestines. Sickness is a common symptom, and even vomiting; the powers of digestion by this means are impaired, and a disposition for the accumulation of air takes place, which is often very troublesome. Here we have from the testicles a chain of sympathies, as we had in consequence of the irritation running along the whole urinary passages, first the testicle is affected from the urethra, then the spermatic chord, the loins,

intestines, stomach, and from thence in some measure the whole body.

In a case of swelled testicle I have known the buttocks swell, but the swelling was not of the inflammatory kind, and in making water, pain was felt in that part. Whether this symptom arose from the swelling of the testicle, or from the same common cause, that is, the gonorrhœa, is not easily determined; although the latter supposition is the most probable.

It has been asserted, but without proof, that in cases of swelled testicles in consequence of a gonorrhœa, it is not the testicle that swells, but the epididymis. The truth is, it is both the one and the other. Any man that is accustomed to distinguish between a swelling of the whole testicle, and that of the epididymis only, will immediately be sensible, that in the hernia humoralis the whole testicle is swelled. The testicle assumes the same shape that it does from other causes, where we know, from being obliged to remove it, that the whole has swelled. The pain is in every part of the testicle. I have seen such swellings suppurate on the forepart, and have known several instances of adhesions between the tunica albuginea and vaginalis, from such causes. This has only been discovered after death, or in the operation for a partial hydrocele. Such changes could not have taken place if the body of the testicle had not been in a state of inflammation. This inflammation of the testicle most probably arises from its sympathizing with the urethra, and in many cases it would appear to arise from what is understood by a translation of the irritation from the urethra to the testicle. Thus a swelling of the testicle coming on shall remove the pain in making water, and suspend the discharge; which shall not return till the swelling of the testicle begin to subside; or the irritation in the urethra first ceasing shall produce a swelling of the testicle, which shall continue till the pain and discharge return; thus rendering it doubtful which is the cause and which the effect. I have nevertheless known cases, where the testicle has swelled, and yet the discharge has become more violent; nay I have seen instances where a swelling has come on after the discharge has ceased; yet the discharge has returned with violence, and remained as long as the swelling of the testicle. Sometimes the epididymis only is affected, sometimes the vas deferens, and at other times only the spermatic chord, producing varicose veins. No reason can be assigned why one of these parts is affected more than another, and indeed the immediate cause in all is as yet unknown. For although an action in the urethra is the remote cause, yet it is still impossible to say whether it be the cessation of that action that is the cause of the swelling in the testicle, or the swelling in the testicle the cause of the cessation. It is described as arising from an irritation taking place in the mouths of the vasa deferentia. Were this the cause, it ought in general to affect both testicles at the same time: but I have seen

this complaint happen as often where the inflammation has gone no further back in the urethra than about an inch and a half, or two inches, as where it has extended further; and the circumstance of the swelling shifting suddenly from one testicle to the other, shows it to arise from some other principle in the animal economy.

A strangury often attends such cases of sympathy, and more frequently when the running stops, than when it is continued along with the swelling of the testicle. Indeed any sudden stopping of the discharge gives a tendency to a strangury.

As singular a circumstance as any respecting the swelling of the testicle is, that it does not always come on when the inflammation in the urethra is at the height. I think it oftener happens when the irritation in the urethra is going off; and sometimes even after it has entirely ceased, and when the patient conceives himself to be quite well.

I may be allowed to remark that swellings in the testicle in consequence of venereal irritation in the urethra, subject it to a suspicion that every swelling of this part is venereal: but from what I said of its nature when it arises from a venereal cause, which was that it is owing to sympathy only, and from what I shall now say, that it is never affected with the venereal disease either local or constitutional, as far as my observation goes, it is to be inferred that such suspicions are always ill founded. This, perhaps, is an inference to which few will subscribe.

I have known the gout produce a swelling in the testicle of the inflammatory kind, and therefore similar to the sympathetic swelling from a venereal cause, having many of its characters. Injuries done to the testicle produce swellings: but they are different from those above mentioned, being more permanent, having the disease or cause in the part itself. Cancers and the scrofula produce swellings of the testicle; but these are generally slow in their progress, and not at all similar to those arising from an irritation in the urethra.

SECTION XI.

Of the Swellings of the Glands from Sympathy.

Since our knowledge of the manner in which substances get into the circulation, and our having learned that many substances, especially poisons, in their course to the circulation, irritate the absorbent glands to inflammation and tumefaction, we might naturally suppose such swellings, accompanying complaints in the urethra attended with a discharge, to be owing to the absorption of that matter, and there-

fore, if it be a venereal discharge, that they must also be venereal. But we must not be too hasty in drawing this conclusion; for we know that the glands will sometimes swell from an irritation at the origin of the lymphatics, where no absorption could possibly have taken place. They often swell and become painful upon the commencement of inflammation, before any suppuration has taken place, and subside at the coming on of suppuration; because, when the suppuration begins, the inflammation abates. I have known a prick in the finger with a clean sewing-needle produce a red streak all up the fore arm, pain along the inside of the biceps muscle, a swelling of the lymphatic gland above the inner condyle of the humeris, and also of the glands of the arm-pit, immediately followed by sickness and a rigor; all which, however, have soon gone off. As it should therefore appear, that the absorbent system is capable of being affected as well by irritation, as by the absorption of matter, in all diseases of this system, arising from local injuries attended with matter, one must always have these two causes in view, and endeavour, if possible, to distinguish from which the present affection proceeds. For in those arising from an irritated surface in consequence of poison, especially the venereal, it is of considerable consequence to be able to say from which of the two it arises; since it sometimes happens, although but seldom, that the glands of the groin are affected in a common gonorrhœa with the appearance of beginning buboes, but which I suspect to be similar to the swelling of the testicle, that is, merely sympathetic. The pain they give is but very trifling, when compared to that of the true venereal swellings arising from the absorption of matter; and they seldom suppurate. However, there are swellings of these glands from actual absorption of matter in gonorrhœa, and which consequently are truly venereal; and as it is possible to have such, they are always to be suspected. As they have sometimes arisen upon a cessation of the irritation in the urethra, similar to the swelling of the testicle, it has been supposed that the matter was driven as it were into them by unskilful treatment. From our acquaintance with the absorbing system, we know that the matter can go that way; but we also know, that we have no method of driving it that way; and if we had, there is no reason why more should not be formed in the urethra. This, therefore, does not account for the cessation of secretion of matter in that part.

It is difficult to say, what is the nature of those sympathetic diseases. They are not venereal, for they subside by the common treatment of inflammation without the use of mercury; and I have known an instance of a swelled testicle from a venereal gonorrhœa that suppurated, and was treated by my advice as a common suppuration, and healed without a grain of mercury being given. Neither can they be called truly inflammatory, having rarely any of the true characters of inflammation, such as thickening of the parts, symptomatic fever, or sizy blood, except in swellings of the testicle and

glands. The swelling of the testicle has several peculiarities attending it; it is often very quick in its increase, and not being of the true inflammatory disposition, it requires less time for the removal of the inflammation; but even where it appears to have more of the true inflammatory action, we find that the removal of the inflammation and tumefaction take place more rapidly than when proceeding from other causes. A swelled testicle, in consequence of the radical cure of the hydrocele, does not subside after inflammation is gone, in as many weeks, as the swelled testicle, in consequence of its sympathy with other parts, does in days; and probably the reason of this is, that it arises from sympathy: for an inflammation arising from real disease in a part, or from an external injury, as in the hydrocele, must always last either till the disease be removed, or the injury repaired; but that from sympathy will vary as the cause varies, which may happen very quickly; for we find a testicle swell in a few minutes, and in as little time subside; and also the swelling move suddenly from one testicle to the other. These sympathies are often peculiar to constitutions, and even to temporary constitutions, insomuch as to be in some degree epidemic; for there is often such an influence in the atmosphere, as predisposes the body to this kind of irritation; and bodies so predisposed require only the immediate cause to produce the effect.

SECTION XII.

Of the Diseases of the Lymphatics in a Gonorrhœa.

Another symptom, which sometimes takes place in gonorrhœa, is a hard chord leading from the prepuce, along the back of the penis, and often directing its course to one of the groins, and affecting the glands. There is most commonly a swelling in the prepuce at the part where the chord takes its rise. This happens sometimes when there is an excoriation and discharge from the prepuce or glans, which may be called a venereal gonorrhœa of these parts. Both the swelling in the groin, and the hard chord, we have reason to suppose, arise from the absorption of pus, and therefore that they are the first steps towards a lues venerea; but as that form of the disease seldom happens from a gonorrhœa, I shall not take any further notice of it in this place. However, I may remark, that from this observation of the lues venerea being seldom produced from a gonorrhœa, it should appear that a whole surface, or one only inflamed, does not readily admit of the absorption of the venereal poison; and therefore, although the venereal matter lies for many weeks in the passage, and

over the whole glans, it seldom happens that any absorption takes place. I have seen a case, where blood has been discharged from the urethra, and the above-mentioned symptoms have come on. I at first suspected that the absorption had taken place where the vessel gave way. But as this symptom rarely happens, even where there has been a considerable discharge of blood, I am inclined to think that wounds are also bad absorbing surfaces, especially when I consider that few morbid poisons are absorbed from wounds.

These appearances are very accurately marked by Turner, though he was unable to form a just conjecture of their cause.

SECTION XIII.

Short Recapitulation of the Varieties in the Symptoms.

From what has been advanced above, it must appear that the variety of symptoms in a gonorrhœa, and the difference of them in different cases, are almost endless. I shall now recapitulate a few of the most material or common varieties. The discharge often appears without any pain; and the coming on of the pain is not at any stated time after the appearance of the discharge. There is often no pain at all, although the discharge be considerable in quantity, and of a bad appearance. The pain often goes off, while the discharge continues, and will sometimes return again. An itching in some cases is felt for a considerable time, which sometimes is succeeded by pain; though in many cases it continues to the end of the disease. On the other hand, the pain is often troublesome, and considerable even when the discharge is trifling, or none at all. In general, the inflammation in the urethra does not extend beyond an inch or two from the orifice; sometimes it runs all along the urethra to the bladder, and even to the kidneys, and in some cases spreads into the substance of the urethra, producing a chordee. The glands of the urethra inflame, and often suppurate; and I suspect that Cowper's glands sometimes do the same. The neighbouring parts sympathize, as the glands of the groin, the testicle, the loins, and pubes, with the upper parts of the thighs and abdominal muscles. Sometimes the disease appears soon after the application of the poison, as in a few hours, at other times not till after six weeks. It is often not possible to determine whether it is venereal, or only an accidental discharge arising from some unknown cause.

It may not be improper to mention here, that I have seen a chancre

on the prepuce produce a pain in the urethra in making water; which most probably depended upon a sympathy similar to that by which the application of venereal matter to the glans produces a discharge from the urethra, as was observed above. If the application of venereal matter to the glans can produce a discharge from the urethra, it is possible that any acrid matter, though not venereal, may have a similar effect. The discharge from the vagina, in cases of what is called fluor albus, is sometimes extremely irritating, insomuch as to excoriate the labia and thighs; and the following history shews that it may sometimes produce effects similar to venereal matter.

Mr. and Mrs. —— have been married these twenty years and upwards. She has for many years past been at times troubled with the fluor albus. When he has connexion with her at such times, it generally, although not always, produces an excoriation of the glans and prepuce, and a considerable discharge from the urethra, attended with a slight pain. These symptoms commonly take a considerable time before they go off, whether treated as a gonorrhœa or as a weakness. Is this a new poison? And does it go no further because the connexion takes place only between two? What would be the consequence if she were to have connexion with other men, and these with other women? Such cases, as far as I have seen, have only been in form of a gonorrhœa. They have not produced sores in the parts; nor, as far as I know, do they ever produce constitutional diseases.

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This is one case in which gonorrhœa was traced to such a cause, as precluded all reasonable suspicion of a venereal origin, and may explain the reason why the secondary symptoms of the disease, or what is called *lues venerea*, occurs so rarely after gonorrhœa, compared with chancres, and also to show the uncertainty of the experiment of inoculating gonorrhœal matter.

CHAP. II.

Of the Gonorrhœa in Women.

The venereal disease in the form of gonorrhœa in women is not so complicated as in men; the parts affected are more simple, and fewer in number. But it is not so easily known in them as it is in men, because the parts commonly affected in women are very sub-

ject to a disease resembling the gonorrhœa, called *fluor albus;* and the distinguishing marks, if there are any, have not yet been completely ascertained. A discharge simply from these parts in women, is less a proof of the venereal infection than even a discharge without pain in men; therefore, in general, little or no attention is paid to it by the patient herself, and we often find the venereal virus formed in those parts without any increase of the natural discharge. The kind of matter gives us no assistance in distinguishing the two diseases; for it often happens that the discharge in the fluor albus puts on all the appearances of the venereal matter; and an increase in the discharge is no better mark by which we can distinguish the one from the other. Pain, or any peculiarity in the sensations of the parts, is not a necessary attendant upon this complaint in women, therefore not to be looked for as a distinguishing symptom.

The appearance of the parts often give us but little information, for I have frequently examined the part of those who confessed all the symptoms; such as increase of discharge, pain in making water, soreness in walking, or when they were touched, yet I could see no difference between these and sound parts. I know of no other way of judging in cases where there are no symptoms sensible to the person herself, or where the patient has a mind to deny having any uncommon symptoms, but from the circumstances preceding the discharge; such as her having been connected with men supposed to be unsound, or her being able to give it to others; which last circumstance, being derived from the testimony of another person, is not always to be trusted to, for very obvious reasons. Thus a woman may have this species of the venereal disease without knowing it herself, or without the surgeon being able to discover it even on inspection. It may appear very strange, that a disease which is so violent and well marked in men should be so obscure in women: but when we consider that this poison generally produces symptoms according to the nature of the parts affected by it, it becomes an easy matter to account in some measure for this difference.

When we attend to the manner in which this disease is contracted by women, it is evident that it must principally attack the vagina, a part that is not endowed with much sensation, or action of any kind. While it is confined to the vagina, it may be compared to the same disease on the glans penis in men. In many cases, however, it extends much further, and becomes the cause of disagreeable feelings, producing a considerable soreness in all the parts formed for sensation, such as the inside of the labia, nymphæ, clitoris, caruncul æ myrtiformes, the orifice of the meatus urinarius, and often affecting that canal in its whole length. Those parts are so sore in some cases, as not to bear being touched; the person can hardly walk; the urine gives pain in its passage through the urethra, and when it washes the above-mentioned parts, which can hardly be avoided. Such symptoms are not much increased at one time more than another,

excepting at the time of making water, and then principally in those who have the urethra affected; for as these parts are less exposed to circumstances of change, the increased irritation arising from such change of parts must necessarily in this sex be less. But in men the urethra, which is the part most commonly affected, has great sensibility, is capable of violent inflammation, is often distended with a stimulating fluid; and the body of the penis, urethra, and glans, stretching the passage with erections, always produce an increase of the symptoms, especially of the pain.

But as this disease frequently attacks parts more sensible than the vagina, and which are more susceptible of inflammation, as has been observed, under such circumstances women have nearly the same symptoms as men; a fulness about the parts, almost like an inflamed tonsil, a discharge from the urethra, violent pain in making water, and great uneasiness in sitting from pressure on those parts.

The bladder sometimes sympathizes, producing the same symptoms as in men, and it is probable that the irritation may be communicated even to the kidneys. It has been asserted that the ovaria are sometimes affected in a similar manner to the testicles in men. I have never seen a case of this kind, and I should very much doubt the possibility of its existence; for we have no instance in other diseases of the ovaria sympathizing with those parts, or at least producing such symptoms as would enable us to determine that they did. That there do, however, uncommon symptoms now and then occur, should appear from the following case.

A lady had all the symptoms of a venereal gonorrhœa, such as a discharge, pain, and frequency in making water, or rather a continued inclination to void it, and a heaviness approaching to pain about the hips and loins. The uncommon symptom in this case was great flatulency in the stomach and bowels; this last sympton was most probably a sympathy with the uterus. There may possibly be sympathies therefore with the ovaria.

The inflammation frequently goes deeper than the surface of the parts; often running along the ducts of the glands, and affecting the glands themselves so as to produce hard swellings under the surface of the inside of the labia, which sometimes suppurate, forming small abscesses, opening near the orifice of the vagina. These are similar to the inflammations and suppurations of the glands in the urethra in men. The different surfaces, or parts which the disease attacks, make no distinction in the disease itself. It is immaterial whether it is a large or small surface: in one case the parts are more susceptible of this irritation than in another; but the method of cure may be more complicated.

It sometimes happens, that the venereal matter from the vagina runs down the perinæum to the anus, producing a gonorrhœa or chancres there.

How far the gonorrhœa in women is capable of wearing itself out,

as in men, I cannot absolutely determine; but I am much inclined to believe that it may; for I have known many women who have got rid of a violent gonorrhœa without having used any means to cure it; and indeed the great variety of methods of cure employed in such cases, all of which cannot possibly do good, though the patients get well, seems to confirm this opinion. One circumstance, which appears as curious as any, is the seeming continuance of the disease in the vagina for years; at least we have reason to believe this, as far as the testimony of patients can be relied on; and this long continuance of it, without wearing itself out as it does sometimes in men, is probably owing to its being less violent in the vagina.

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I am far from being convinced that the true venereal gonorrhœa ever does wear itself, or cease by a spontaneous cure, in either women or men. That many gonorrhœas do cease in both sexes is certain; but it is by no means proved that such are venereal. It may also be admitted that venereal gonorrhœas may cease without the use of those means which are found necessary in chancres. But every wrong action, which the constitution cannot change of itself, must be superseded by a new action proportionate to the force of the old. An early chancre may be cured with less mercurial excitement than an old one, as the disease has probably not extended so far into the surrounding parts. In gonorrhœa no breach of the solids has taken place; all therefore that is required is to supersede the action by which this contagious secretion is induced. Nor need this new action be kept up long, because we have not as we shall find in chancre a new conformation of parts, but a mere alteration in their secretion. To remove the first it may probably be necessary that the new parts should be absorbed, which must require more time than merely to supersede a diseased action.

SECTION I.

Of the Proofs of a Woman having this Disease.

It may be asked, what proof there is of a woman having a gonorrhœa, when she is not sensible of having any one symptom of the disease, and none appears to the surgeon on examination? In such a case the only thing we can depend upon is, the testimony of those whom we look upon as men of veracity. Such men have asserted, that they have been affected by a woman in the situation above described, having had no connection for some months with any other

woman. From this evidence it is reasonable to suppose, that the disease has been caught from such woman; and it should seem to put it beyond a doubt, when the same woman gives the disease in this way to more than one man. The case of the woman giving the disease to two men alternately at an interval of twelve months each time,* which gives a space of at least two years for the continuance of the disease, proves that its communication is almost the only criterion of its presence. The case too of the young woman at the Magdalen Hospital,† confirms the same opinion. Yet all this does not amount to an absolute proof; for a sound woman may have had a connection with a man who had a gonorrhœa, or a man with chancres, and soon after, that is, perhaps within forty-eight hours, she may have admitted the embraces of a sound man. In such a case it is very possible that he may receive the infection from that matter which was lodged in the vagina by the unsound man; and yet the woman may not catch the disease; for the matter may be washed away before it irritates the vagina; and this woman may be suspected of having a gonorrhœa, and apparently with great justice. A repetition of these circumstances may be the cause of many women appearing to have the disease for years, when without really having it. Again, I have seen a bubo come on at a time when the patient was not sensible of any disorder till that appeared. This, one would think, is an absolute proof, that there may be a gonorrhœa, and the patient not be conscious of it; but even this is not altogether without fallacy; for they may have been an absorption of venereal matter deposited in the vagina by some infected man, which may not have produced any irritation in that part.

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The proofs of venereal gonorrhœa in women must be very uncertain, and to this it may be imputed that women have sometimes the secondary symptoms, or lues venerea, without our being able to trace the primary symptoms: when we consider the constant humidity of the female organs, we cannot wonder if a slight gonorrhœa, though venereal, should pass unnoticed.

* See page 48. † See page 49.

CHAP. III.

Of the Effects of the Gonorrhœa on the Constitution in both Sexes.

The disease I have been describing, both in men and women, is local, and generally confined to the part affected; yet it sometimes happens that the whole constitution is more or less affected by it. Thus we find, before there is any appearance of matter from the parts, that some patients complain of slight rigors: these are most considerable when the suppuration is late in taking place. A remarkable instance of this happened in a gentleman who had the infection twice,* the first time, he assured me, that it was six weeks between the time it was possible for him to have contracted the disease, and its appearance; and that for a considerable part of that time he had often been indisposed with slight rigors, attended with a little fever and restlessness, for which he could assign no cause; nor was he relieved by the usual remedies prescribed in such cases. A violent gonorrhœa came on, and these symptoms went off, which appeared to me to explain the case. The second time it was a month from the time of infection before the gonorrhœa appeared, and for some weeks of that time he was subject to a similar indisposition, which went off as before, when the running came on. Here it would appear that we have something of a suppurative fever, which, perhaps, often happens in this disease; but the inflammation being small, and the fever therefore inconsiderable, it is commonly little noticed by the patient. The above gentleman, not suspecting any such complaint in the first attack, had connection with his wife as usual, and was afraid, when the disease appeared, that he might have given it to her; but she never complained, which is a strong circumstance in confirmation of the principle laid down above, that it cannot be communicated but by matter.

These constitutional sympathies, from local specific diseases, are the same, from whatever cause they proceed; they are the sympathetic effects of irritation or of violence; and it is probable that all remote sympathies are, at least in this respect, similar: for if they were similar to their cause, it is most probable that they would produce in the constitution the same kind of disease that gave rise to them.

* The case is mentioned before, page 48.

CHAP. IV.

Of the Cure of the Gonorrhœa.

From the idea which I have endeavoured to give of the venereal disease in general, namely, that, in whatever form it appears, it always arises from the same cause, it might be supposed, that, since we have a specific for some of the forms of the disease, this specific should be a certain cure for every one; and therefore that it must be no difficult task to cure the disease when in the form of inflammation and suppuration upon the secreting surfaces of any of the ducts or outlets of the body: but from experience we find the gonorrhœa the most variable in its symptoms, while under a cure; and the most uncertain, with respect to its cure, of any of the forms of this disease; many cases terminating in a week, while others continue for months, under the same treatment.

The only curative object is, to destroy the disposition and specific mode of action in the solids of the parts, and as that is changed, the poisonous quality of the matter produced will also be destroyed. This effects the cure of the disease, but not always of the consequences.

I have already observed, that this form of the disease is not capable of being continued beyond a certain time in any constitution; and that in cases where it is violent, or lasted long, it is owing to the parts being very susceptible of such irritation, and readily retaining it. As we have no specific medicine for the gonorrhœa, it is fortunate that time alone will effect a cure: it is therefore very reasonable to suppose, that every such inflammation ceases of itself; yet, although this appears to be nearly the truth, it is worthy of consideration, whether medicine can be of any service in this form of the disease. I am inclined to believe it is very seldom of any kind of use, perhaps not once in ten cases; but even this would be of some consequence, if we could distinguish the cases where it is of service, from those where it is not. Upon the idea that every gonorrhœa cures itself, I gave certain patients pills of bread, which were taken with great regularity. The patients always got well, but some of them, I believe, not so soon as they would have done, had the artificial methods of cure been employed.

The methods of cure hitherto recommended, and still followed by different people of the profession, are of two kinds. They consist either of internal remedies, or local applications; but in whichsoever of these two ways this disease is to be treated, we are always to pay more attention to the nature of the constitution, or to any attending disease in the parts themselves, or parts connected with them, than to the disease itself.

The nature of the constitution is principally to be learned from the local effects; for the local effects of this poison are so different in different people, as to require great variety of treatment; but this has been too little attended to, every one endeavouring to attack the immediate symptoms as if he had a specific for a gonorrhœa.

The first thing to be considered is, the nature of the inflammation, whether violent or mild, whether common or irritable; yet, even when this is ascertained, we have not in all cases the cure in our power; for I have already observed, that some people are very susceptible of this irritation, who are, as it were, insensible to others; and, on the contrary, many are easily affected by common inflammation, who are insensible to this. These last are rather uncommon dispositions, and the cure being always easy they demand little attention. When the symptoms are violent, but of the common inflammatory kind, which is to be collected from the attending circumstances, particularly the extent of the inflammation not exceeding the specific distance, the local mode of cure may be either irritating or soothing. Irritating applications in the present case may be attended with less danger than in the *irritable inflammation*,* and may alter the specific action; but to produce this effect it must be greater than the irritation from the original injury. The parts will afterwards recover of themselves, as from any other common inflammation. After all, however, I believe the soothing plan is the best at the beginning. If the inflammation be great, and of the irritable kind, no violence is to be used in the cure, (for it will only increase the symptoms,) unless we know that the great degree of inflammation arises entirely from a susceptibility of this irritation, and that there is no general irritability in the constitution; which seldom can be ascertained. In cases where the symptoms run high, nothing should be done that may tend to stop the discharge, either by internal or external means, for nothing would be gained thereby; as we may stop the discharge, and not put an end to the inflammation. The constitution is to be altered, if possible, by remedies adapted to each disposition, with a view to alter the actions of the parts arising from such dispositions, and reduce the disease to its simple form. If the constitution can be altered, nothing is to be done but to allow the action to wear itself out.

When the inflammation has considerably abated, and the disease

* It is very difficult to give clear ideas of distinctions in disease, when they are not marked by something permanent as to time, space, &c. I have used the term *irritable inflammation*, because I think this kind of inflammation takes place more in weak irritable habits than in others; it appears to be guided by no law that I am acquainted with. It may be called an ill formed inflammation, as not going through the usual process to a natural termination, but continuing with little variation; and if such inflammation were to take place in the cellular membrane, it would rather produce an œdematous swelling, than such as arises from the extravasation of coagulable lymph, which takes place in what I would call the true inflammation.

only remains in a mild form, its cure may be attempted either by internal remedies, or local applications. If a local cure be attempted, violence is still to be avoided; because it may bring back the irritation. At this period gentle astringents may be applied with a prospect of success; or, if the disease has begun mildly, and there are no signs of an inflammatory disposition, either of the common kind, or the irritable, in order to get rid of the specific mode of action quickly, an irritating injection may be used, which will increase the symptoms for a time, but when it is left off they will often abate, or wholly disappear. In such a state of parts, astringents may be used: for the only thing to be done is, to procure a cessation of the discharge, which is now the principal symptom.

In those cases where the itching, pain, and other uncommon sensations are felt for some time before the discharge appears, I should be inclined to recommend the quieting or soothing plan instead of the irritating, with a view to bring on the discharge, as that effect is a step towards a resolution of the irritation; but how far it would really be the proper plan I cannot absolutely say, not having had experience enough in such cases. One thing, however, I think I may assert from reasoning, that to use astringents would be bad practice, as they would rather tend to prevent the discharge from taking place, which might prolong the inflammation and protract the cure. In cases of stricture, or in cases of diseased testicles, I believe, astringents should not be used; for we find in either case, while the discharge lasts, both complaints are relieved; therefore, in such cases we should proceed with more caution than when all the parts are otherwise sound. If we had a specific for venereal gonorrhœa, it would still be a question, whether this specific could cure the irritation before the full action had taken place.

It is not merely a conformity with the inference manifestly arising from the position, *(that the disease, in whatever form it appears, arises from the same cause,)* which induces me to believe that it may be always cured by the same means. An accurate examination of every authority, as well as my own practical observations, would lead to the conclusion, that the means which cures a chancre will destroy the venereal action of gonorrhœa, and that though the discharge may remain, yet it will not be of the virulent or contagious property which it possessed before such means were used. This subject is discussed more at large in " Morbid Poisons," where the opinions of Mr. Whateley and several others are noticed.

For relieving the first urgent symptoms, however violent the inflammation may be, as long as it maintains the specific distance, we have nothing to contend with but inflammation, which we shall always know how to manage. If the disease spreads, we must be inquisitive concerning all the peculiarities of the patient's constitution before we attempt any means of relief.

SECTION I.

Of the different Modes of Practice—Evacuants—Astringents.

The internal remedies commonly recommended in a gonorrhœa, may be divided into evacuants and astringents. The evacuants are principally of the purgative or diuretic kind, and these not confined to any particular medicines; for every practitioner supposes that he is in possession of the best. Some use mercurial evacuants, while others carefully avoid mercury in every form. The neutral salts have been given from the idea of their being cooling. Some of the profession have kept principally to diuretics, perhaps with two views, as evacuants acting upon the urinary passages mechanically, to wash off the venereal matter, or as specifics for the latter purpose: nitre has been given with this view; besides, it has been supposed to lessen inflammation; but its virtues in this way I very much doubt. Under these different modes of treatment the patients always get well, and the cures are ascribed by each practitioner to his own method of treatment.

To keep the body open in most cases, even when the patient is in other respects in health, must, no doubt, be proper; but what idea can we form of an irritation produced all along the intestinal canal, curing a specific inflammation in the urethra? Yet there are cases where a brisk purge has been of service, and even in some has performed a cure. But I suspect that in such cases the disease had been continued by habit only, and that this practice would not have succeeded in the beginning. A gentleman had a gonorrhœa, all the symptoms of which continued for two months, and by taking at once ten grains of calomel, which purged him most violently, he was almost immediately cured. The calomel could not have acted specifically, but by a kind of derivation, that is an irritation, produced in one part, cured one that subsisted in another; but even if it should be granted, that in some constitutions purges have the power of making the solids less susceptible of this irritation, it cannot be supposed they will have this effect in every case; in some constitutions they might debilitate, increase irritability, and of course increase the symptoms. These contrary effects must take place in different constitutions in which a medicine has no specific action. On the supposition of the cure being promoted by an evacuation from the blood, what service can purging out some of the blood in form of a secretion from one part do, to an inflammation of another part? On such a supposition, would not a sweat, or an increase of saliva by chewing tobacco, or stimulating the nose by snuff, all tend equally to cure a gonorrhœa? But humors having been considered as the universal cause of every disease, especially those in which pus is formed or a discharge produced,

and purging having been supposed to be the cure for humors, purgatives were of course made use of in this disease; and as the patients have always been cured, the practice became generally established.

Those who recommended mercury in this form of the disease, did it most probably from the opinion that this medicine was a specific for the venereal disease in all its forms. On this supposition we can see some reason for their practice, as it would be absorbed from the intestines, circulate through the inflammed vessels of the the urethra, and thereby destroy the venereal irritation. Here we can only suppose it to act by its specific virtue: but I doubt very much of mercury having any specific virtue in this species of the disease, for I find that it is as soon cured without mercury as with it; and where this medicine is only used as a purge, or purged off the next day, and therefore allowed to act merely upon the bowels, I cannot conceive that it could have any more effect upon the venereal inflammation in the urethra, than an irritation in the bowels arising from any other purgative. So little effect indeed has this medicine upon a gonorrhœa, that I have known a gonorrhœa take place while under a course of mercury sufficient for the cure of a chancre. Whether the gonorrhœa arose from the same infection that produced the chancre, I cannot say; nor can it be easily determined in such cases. Men have also been known to contract a gonorrhœa when loaded with mercury for the cure of a lues venerea; the gonorrhœa, nevertheless, has been as difficult of cure as in ordinary cases.

A gentleman committed himself to my care on the 27th of June, for the cure of two chancres and a bubo. I dispersed the bubo, but, as he disliked the unction, I was obliged to substitute mercurius calcinatus daily, instead of it, giving two grains in the evening and one in the morning. About the middle of July his mouth became sore, and the mercury was left off; we began its use again in a week, and he appeared to be quite well of his venereal complaints. I, however, continued the use of mercury, keeping his mouth sore, and on the 16th of August, while in this state, he had a connexion with a woman, both on that and the following evening, and in five days after, a gonorrhœa appeared, and proved to be very violent.

The same general observations may be made with regard to the effects of diuretics, considered as evacuants.

It is possible that specific medicines taken into the constitution, (if we had such,) and passing off by urine, might act upon the urethra in their passage through it. The balsams and turpentines pass off in this way, and become specifics for many irritations in the urinary passages; but how far medicines which have the power of affecting particular parts when sound, or when under diseases peculiar to those parts, have also the powers of affecting a specific irritation in these parts, I know not; but do not believe they have any considerable powers in this way. It is possible, however, that they may remove any attending irritation, although not the specific one. Diuretics have, nevertheless,

their advantages; for if they produce a greater quantity of water, they do good: but I believe this had better be effected by simple water, or water joined with such things as will encourage the patient to drink a good deal, as tea, syrup of capillaire, orgeate, and the like.

Astringents, although often given, yet have always been condemned by those who have called themselves the judicious and regular practitioners; because, according to them, there is something to be carried off, and if that is not carried off, a lues venerea is to be the consequence. This reasoning is not just, and therefore the question to be considered is, Do they, or do they not, assist us in the cure of the gonorrhœa? I believe they do not in any case lessen the venereal inflammation; but certainly they often lessen the discharge. As that effect, however, does not constitute a cure, it is not necessary to produce it.

I can conceive that a combination of astringents, especially the specific astringents of those parts, as the balsams, with any other medicine which may be thought to be of service, may help to lessen the discharge in proportion as the inflammation abates; and this I have often seen, as will be explained more at length hereafter.

SECTION II.

Of local Applications—Different kinds of Injections—Irritating—Sedative—Emollient—Astringent.

Local applications may be either internal to the urethra, external to the penis, or both; all of which will in many cases be necessary. The internal, applied to the urethra, should seem the most likely to cure this species of disease, by coming immediately in contact with the diseased parts; for if they have any power of action, whatever that be, it must be in opposition to the venereal irritation. Therefore we might suppose, that most irritations that are not venereal, would tend to a cure; but certainly this is not universally the case. If, on the contrary, the applications are such as quiet irritation, they must also be of service.

Local applications to the urethra may be either in a solid or fluid form, each of which has its advantages and disadvantages. A fluid is only a temporary application, and that of very short duration, and is similar to the washing of a sore, which is, I believe, in most cases unnecessary; for I imagine that matter, from any sore whatever, is always such as cannot stimulate that sore into any action: it can be of no consequence, therefore, whether the matter is allowed to lie upon it, or not; but it being removed, the medicines are allowed to come in contact with

the inflamed surface. I apprehend, it is only in this way that the removal of it can be of service. The solid applications may remain a long time, and are similar to the dressings in the case of a wound. When the parts are not so much inflamed as to prevent the use of them, they would appear to have an advantage over the fluid applications by continuance; but they in general irritate immediately, in consequence of their solidity alone. These applications must be in the form of a bougie; but I should be inclined to suppose that the less use that is made of bougies, when these parts are in an inflamed state, the better; although I cannot say that I ever saw any bad effects from them in any case, when applied with caution.

Fluid applications to the inside of the urethra are commonly called injections, and, like the internal remedies, are without number; every practitioner thinking, or wishing to make the world think, that his own is the best. But, as every venereal inflammation is frequently removed under the use of injections of various kinds, (which were observed with respect to internal medicines,) have we not here a strong corroborating circumstance in favour of an opinion, that every such complaint will in time cure itself? I think, however, it appears from practice, that an injection will often have almost an immediate effect upon the symptoms, and that, therefore, they must have some powers; and yet the kind of injection which would have the greatest specific powers, I believe, is not yet known: if an injection has no specific powers, it must be very uncertain in its effects, and can only be of service as far as it may be adapted to a peculiarity of constitution or parts. As injections are only temporary applications, it becomes necessary to use them often, especially in cases where they are found to be of service; they should therefore be applied as often as convenient, perhaps every hour, or even oftener; but this must be regulated in some measure by the kind of injection; for if it be irritating, it will not be proper to use it so often, as it may be productive of bad consequences.

Many injections immediately, or at least soon after the application, remove the symptoms, and prevent the formation of matter, which has given rise to the notion of their shutting up the disease, and driving it into the constitution; but this supposed mode of producing a constitutional complaint, is the reverse of what really happens; for I have already endeavoured to prove, that matter is the only substance in which the poison is contained, and that the formation of the poison is inseparable from the formation of matter; therefore if we can prevent the one, the other cannot take place, and of course there can be no room for absorption: so that there can neither be any power of infecting the constitution in the same person, nor of communicating the infection to others.*

When the discharge is an effect of present inflammation, it may

* Vide page 28, what was said in the method of contracting the lues venerea.

be stopped by injections, though the inflammation still continue in some degree, and may afterwards be removed without the discharge ever re-appearing. But I believe that by this practice little is gained; for the effect of the inflammation is not the disease which we wish to remove. However, we find that the same method which stops the discharge, also removes the inflammation, although not always, and only I believe when the inflammation is slight.

I shall divide injections, according to their particular effects upon the urethra, into four kinds, the irritating, sedative, emollient, and astringent. The specific, I believe, is not yet discovered, although a mercurial injection, in some form or other, is by most people supposed to be possessed of such a power, and of course this mineral makes part of many of the injections now in use.

Irritating injections, of whatever kind, I suspect, in this disease act upon the same principle, that is, by producing an irritation of another kind, which ought to be greater than the venereal, by which means the venereal is destroyed and lost, and the disease is cured, although the pain and discharge may still be kept up by the injection. Those effects, however, will soon go off when the injection is laid aside, because they arise only from its irritating qualities. In this way bougies, as well as many injections, may be supposed to perform a cure; and although they increase the symptoms for the time, they never can increase the disease itself, any more than the same injection, which would produce the same symptoms, if applied to the urethra of a sound man, can communicate the disease. Most of the irritating injections have an astringent effect, and prove simply astringents when mild; their irritating quality depending chiefly upon their strength.

As irritating injections do not agree with all inflammations arising from the venereal poison,* it may be asked, In what cases are the irritating injections to be used with advantage? This I have not been able to determine absolutely; but I think irritating injections should never be used where there is already much inflammation, especially in constitutions which cannot bear a great deal of irritation, as a previous knowledge of the disease in the same person sometimes teaches us; nor should they be used where the irritation has spread beyond the specific distance; nor where the testicles are tender; nor where, upon the discharge ceasing quickly, they have become sore; nor where the perinæum is very susceptible of inflammation, and especially if it formerly has suppurated; nor where there is a tendency in the bladder to irritation, which is known from the patient having had for some time a frequency in making water. In such cases I have not succeeded with them; they not only do no good, but they often do harm; for I have seen them make the inflammation spread

* For I have already remarked, that the inflammation varies according to the constitution.

further in the urethra;* and I think I have had reason to suspect, that they have been the cause of abscesses in perinæo. But in cases that are mild, and in constitutions that are not irritable, injections often succeed, and remove the disease almost immediately. The practice, however, ought to be attempted with caution, and not, perhaps, till milder methods have failed. Two grains of corrosive sublimate, dissolved in eight ounces of distilled water, are nearly as good an injection as any of the kind. But an injection of only half this strength may be used, where it is not intended to attempt a cure so quickly. If, however, the injection, even in that proportion, gives considerable pain in its application, or if it occasions a great increase of pain in making water, it should be diluted.

Sedative injections will always be of service in cases where the inflammation is considerable, not by lessening the disease itself, but by lessening the diseased action, which always allows the natural actions of the part more readily to take place. They are likewise very useful in relieving the painful feelings of the patient. Perhaps the best sedative we have is opium, as well when given by the mouth or anus, as when applied to the part affected in the form of an injection. But even opium will not agree, or act as a sedative in all constitutions, or parts. On the contrary, it has often opposite effects, producing great irritability. Lead may be reckoned a sedative, so far as it abates inflammation, while at the same time it may act as a gentle astringent. Fourteen grains of saccharum saturni, in eight ounces of distilled water, make a good sedative astringent injection.

The drinking freely of diluting liquors may, perhaps, be considered as having a sedative effect, as it in part removes some of the causes of irritation, rendering the urine less stimulating, either to the bladder, when the irritation is there, or to the urethra in its passage through it; and it is possible, that diluting may lessen the susceptibility of irritation. The vegetable mucilages of certain seeds and plants, and the emollient gums, are recommended; but I suspect that this practice is founded on a mechanical notion, and that none of them are of much service. I believe, the advantage arises chiefly from the quantity of water that is drunk; and that if the water be joined with any thing, spirits excepted, that can induce the patient to drink freely, the purpose is fully answered. I have, however, been informed by some patients, that they have thought, that, when the liquids they drank have been impregnated with mucilaginous substances, they have had less uneasiness in making water.

Emollient injections are the properest applications where the inflammation is very great. They are most probably useful by first simply washing away the matter, and then leaving a soft application to the part; in which way I can conceive them to be of singular ser-

* It is, however, to be remarked, that this symptom is not always to be attributed to the injection; for it often happens when none has been used.

vice, by lessening the irritating effects of the urine. Indeed practice proves this; for we often find that a solution of gum arabic, milk and water, or sweet oil, will lessen the pain and other symptoms, when the more active injections have done nothing, or have seemed to have done harm.

It very often happens, that the irritation is so great at the orifice of the urethra, that the point of the syringe cannot be suffered to enter. When this is the case, nothing should be done in the way of injection till the inflammation abate. Emollients may likewise be used externally in form of fomentation.

The astringent injections can only act by lessening the discharge They can have no specific effect upon the inflammation; but, as they must affect the actions of the living powers, it is possible they may alter the venereal disposition. They should only be used towards the latter end of the disease, when it has become mild, and the parts begin to itch. But this should be according to circumstances, and, if the disease begins mildly, they may be used at the very beginning; for, by gradually lessening the discharge, without increasing the inflammation, we complete the cure, and prevent a continuation of the discharge, called a gleet. Injections of this kind very probably stimulate in such a way as to make the vessels of the part contract, and probably hinder the act of secretion. We can hardly suppose that they act chemically by coagulating the juices. They will have an irritating quality if used strong; which in some measure destroys their astringency, or rather makes the parts act contrary to what they would do from the application of a simple astringent. Thus they often increase the discharge instead of lessening it; by which means the disease also may be cured in the same way as by irritating injections, that is, by altering the disposition of the inflammation. When more mild, they often stop the discharge, without, however, in all cases hastening the cure; for the inflammation may still continue even longer than it otherwise would have done, if the tendency to secretion had not been stopped. I have already observed, that a surface that discharges has assumed the complete action of the disease, which is one step towards a cure or termination. However, it sometimes happens, that an astringent injection will cure a slight irritation in a very few days. My experience has not taught me that one astringent is much better than another.

The astringent gums, as dragon's blood, the balsams, and the turpentines, dissolved in water; the juices of many vegetables, as oak-bark, Peruvian-bark, tormentil-root, and perhaps all the metallic salts, as green, blue, and white vitriols; the salts of mercury, and also alum; probably all act much in the same way; although we may assert, that they do not always act equally well in every gonorrhœa; for on our changing the injection, we sometimes succeed, after several others have been tried in vain.

The external applications are generally poultices and fomenta-

tions; but they can be of little service, except when the external parts, such as the prepuce, glans, and orifice of the urethra, are in some degree inflamed; the last, indeed, is almost always more or less affected.

When the glands of the urethra are so much swelled as to be felt externally, the application of the mercurial ointment to the part may be proper; but most probably this will be of more service after the inflammation has subsided. Indeed, mercurial ointment is often applied to all the external surfaces of those parts, when in a state of inflammation, with an emollient poultice over it. I am not perfectly satisfied of the utility of this practice.

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On this invaluable series of practical remarks I shall only make one observation.

In all cases of gonorrhœa, if not attended with any unusual symptoms, I have found the injection of corrosive sublimate the most convenient and efficacious. The remedy in this form was, I believe, new when Mr. Hunter wrote, which may account for his very cautious manner of speaking of it. Mr. Whateley has very much simplified the practice, by proposing the solutions in different degrees of strength, or diluted according to the feelings of the patient, or irritability of his constitution.

On a former occasion, I mentioned an intention of renewing the question, whether venereal gonorrhœa will cure itself, or, as Mr. Hunter with more accuracy expresses it, wear itself out. The present offers a passage for reviving the inquiry. "Irritating injections, I suspect," says Mr. Hunter, "act by producing an irritation of another kind, which ought to be greater than the venereal." Nothing can be more reasonable; but does not the inference follow, that after a time the venereal inflammation by degrees becomes so slight, that its existence can only be known by the action it retains of secreting a fluid in a very inconsiderable quantity? In this state, may not a very trifling irritation, one which may almost pass unnoticed by the patient, be sufficient to supersede the venereal action; and thus, may not the disease be cured in the usual way, whilst it appears to have ceased spontaneously? The analogy holds good in the treatment of the constitution, as we shall see in the next chapter.

CHAP. V.

Of the Cure of Gonorrhœa in Women.

In women the cure of the gonorrhœa is nearly the same as in men; but the disease itself is milder, and the secondary symptoms less numerous in women. This arises from there not being so many parts to be affected, and from those parts not being either of so great extent, or so liable to inflammation. Hence the cure becomes more simple.

When the disease is in the vagina only, it is easily cured. Injections are the best means that can be used, and, after the use of them, it may be proper to anoint the parts, as far up as possible, with mercurial ointment,* and also to wash the external parts often with the injection.

If the inflammation has attacked the urethra, injections there cannot be so conveniently used, as it is almost impossible for the patient to throw an injection into that canal.

The injections, recommended in the cure of men, are equally serviceable here; but they may be made doubly strong, as the parts of women are not nearly so irritable as the common seat of this disease in men.

If what I have said of the disease in women be just, we must see that it will be a difficult thing to say, with any degree of certainty, when the patient is well; because, whenever the symptoms have ceased, the surgeon and the patient will naturally suppose the cure to be complete; but a new trial of those parts may prove the contrary; or in cases where the disease has never affected the urethra, but only the vagina, and still more where no symptoms have ever been observed, it will be more difficult to fix the date of the cure; but general experience must direct the practitioner.

When the inflammation runs along the ducts of the glands, whether those of the mouth of the vagina, or urethra, or affects the glands themselves, the same method is to be followed; in particular, the mercurial ointment is to be freely applied to the parts. If the inflammation on the mouths of the ducts is so great as to shut them up, the duct and glands will suppurate, and form abscesses: in such cases it will be necessary to open them, or enlarge the opening already formed, and dress the abscess as a chancre or bubo.

In the case of a simple running, the constitutional treatment will be taken notice of hereafter; but if any suppuration follow, the con-

* How far mercurial ointment assists in the cure, I have not been able to determine; the use of it arises more from a kind of practical analogy than real experience in such cases.

stitution is to be treated as in chancres or buboes; for most probably absorption will take place, and its effects must be guarded against.

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In either sex, where a discharge from a suspicious source cannot be made to subside, though all inflammatory symptoms may have ceased, I am inclined to believe that a salivation would destroy the venereal or contagious property of the discharge, nor would I pronounce any gleet free from danger without such a precaution.

CHAP. VI.

Of the Treatment of the Constitution in the Cure of the Gonorrhœa.

In the cure of the gonorrhœa, the constitution is, in some cases, to be as much attended to as the parts affected, if not more; but in general this is not necessary. The knowledge of the constitution is to be obtained, in a great measure, from the local symptoms; and as far as the constitutional treatment can be made similar to the local, they should correspond.

We find in many strong plethoric constitutions, where both the powers and actions are great, that the symptoms are violent. These constitutions have generally a strong tendency to fever of the inflammatory kind; and probably the most distinguishing mark of such a constitution is that of the symptoms not extending beyond the specific distance. Many medicines, which might be of service in another constitution, will often prove hurtful here, in so much as to increase the very symptoms which they were meant to relieve. I have seen even opiate clysters, though they relieved at first, yet in the end produce or increase fever, and by that means increase all the symptoms. I have seen the balsam capivi, given such cases, increase the inflammatory symptoms, probably by stopping the discharge in part, which appears to be salutary. The treatment of such a constitution, when affected with this disease, consists chiefly in evacuations, the best of which are bleeding and gentle purging. To live sparingly, and above all to use little exercise, is necessary; for although such a treatment does not lessen the venereal irritation, yet it lessens the violence of the inflammation, and allows the parts to relieve themselves. In this kind of constitution, therefore, the disease is in the end soonest cured, as there is not a tendency to a continued inflammation.

In the weak and irritable constitution, the symptoms are frequently very violent, arising from great action in the parts, and often extend

beyond the specific distance; the inflammation running along the urethra, and even affecting the bladder. Instead of evacuations, which would rather aggravate the symptoms than relieve them, the constitution should be strengthened, and thus it will be less susceptible of irritation in general.

I have seen patients, whose constitutions were such, that they were never sure of twenty-four hours health, where the inflammation has been both considerable and extensive. I have seen evacuations tried, and the symptoms increased; but as soon as the bark was given freely, they have become almost immediately mild; and without using any other medicine, the patients have soon recovered. The medicine here acted upon the constitution; destroyed the irritability; gave the parts a true and healthy sense of the venereal irritation, and brought the inflammation to that state, in which it ought to be in a healthy subject; whereby the constitution was enabled to cure itself.

So capricious sometimes is this form of the disease in its cure, that the accession of an accidental fever has stopped the discharge; the pain in making water has ceased, and the gonorrhœa has finally terminated with the fever. In others I have seen all the symptoms of the gonorrhœa cease on the accession of a fever, and return when the fever has been subdued. In some I have seen a gonorrhœa begin mildly, but a severe fever coming on, and continuing for several days, has greatly increased the symptoms; and on the fever going off, the gonorrhœa has also gone off. Although a fever does not always cure a gonorrhœa, yet as it possibly may, nothing should be done while the fever lasts; and if it continues after the fever is gone, it is then to be treated according to the symptoms.

Unfortunately there are cases where no known method lessens the symptoms; evacuations have produced no abatement; the strengthening plan has been as unsuccessful; sedatives and emollients have procured no relief; and time alone has performed the cure. In such cases, the soothing plan, I believe, is the best, till we know more of the disease. Astringents should not be used, their action upon the inflamed parts being uncertain; for they often do not lessen the inflammation or the pain, although they may, perhaps, lessen the discharge. The turpentines, especially the balsam capivi, and Canada balsam, lessen the disposition of the parts to form matter, which effect has always a salutary appearance; but as they have not at the same time the power of lessening the inflammation, they can be of little service.

Besides the various effects arising from the difference of constitution in the gonorrhœa, we find that it is considerably affected by the patient's way of life, during the inflammatory state, and also by other diseases attacking the constitution at the same time. But this is common to all other diseases; for whenever we have a local disease, (in which light I have considered a gonorrhœa,) it is always affected by whatever affects the constitution. Most things that hurry,

or increase the circulation, aggravate the symptoms; such as violent exercise; drinking too much of strong liquors; eating strong indigestible food, some kinds of which act specifically on these parts, thereby increasing the symptoms more than by simply heating the body, such as peppers, spices, and spirits.

From what has been said in general, it must appear that a gonorrhœa is to be cured in the same way as every other inflammation; and it must also appear, that all the methods used are only to be considered as correctors of irritation in general, and of disordered circulation. In cases that have begun mildly, where the inflammation has been but slight, or in those cases where the violent symptoms, above taken notice of, have subsided, such medicines as have a tendency to lessen the discharge may be given along with the local remedies before mentioned. The turpentines, I believe, are the most efficacious. Cantharides, the salts of some metals, such as of copper, and lead, and also some earths, as alum, are strongly recommended as astringents when given internally.

Whatever methods are used for the cure, locally or constitutionally, it is always necessary to have in view the possibility of some of the matter being absorbed, and afterwards appearing in the form of a lues venerea; to prevent which I should be inclined to give small doses of mercury internally. At what time this mercurial course should begin, is not easily ascertained; but if the observation be just, that a disposition once formed is not to be cured by mercury, but that mercury has the power of preventing a disposition from forming, as was formerly explained, we should begin early, and continue it to the end of the disease, till the formation of venereal matter ceases, and even for some time after. The mercurial ointment may be used where mercury disagrees with the stomach and intestines.

This practice appears to be more necessary if the discharge has continued a considerable time, and especially if the treatment has been simply by evacuants; for, in the former case, there is a greater time for absorption, and in the latter we may suppose a greater call for it, such medicines having no effect in carrying off the virus.

To prevent a lues venerea being produced from absorption, a grain of mercurius calcinatus taken every night, or one at night and another in the morning, may be sufficient; but should be continued in proportion to the duration of the disease.

The success of this practice, in any particular case, can never be ascertained, because it is impossible to say, when matter has been absorbed, except in cases of buboes; and where it is not known to be absorbed, it is impossible to say that there would have been a lues venerea if mercury had not been given, as very few are infected from a gonorrhœa, although they have taken no mercury. It is, however, safest to give mercury, as we may reasonably suppose it will often prevent a lues venerea, as it does when given during the cure of a

chancre or bubo, where we know, from experience, that without it, the lues venerea would certainly take place.

It will be necessary first to anticipate Mr. H.'s doctrine of the cure of chancre by mercury, which, whether admitted or not, is no way necessary to our present purpose;* our only business being to prove, that if the doctrine is right in that instance, gonorrhœa is so often cured by a similar process, without mercury, as to render it at least doubtful whether it is ever cured by the mere spontaneous uninterrupted powers of the constitution.

Mr. Hunter, we shall find, considers the cure of other symptoms of the venereal disease by mercury, as the consequence of a higher irritation being excited than the venereal. In the same way he conceives that gonorrhœa may be cured by the application of *local* stimuli, which may excite a higher degree of irritation than the venereal. (See part II. chap. IV. section II.) In the present passage he shows us, that certain *constitutional* irritations have been sufficient to supersede the gonorrhœal action. "A fever coming on," says he, "has stopped the discharge; the pain in making water has ceased, and the gonorrhœa has finally terminated with the fever," &c.—Now, when we consider the frequency of little ephemeral fevers in some constitutions, without any apparent cause, particularly in females; when we consider the various accidental causes of short, though sometimes severe, fevers in men; can we wonder if they are often sufficient to supersede the gonorrhœal action, especially when the disease has become chronic? When we reflect on this, and on the uncertainty of the real cause of gonorrhœa, it does not appear to me that we are authorized in saying, that the venereal gonorrhœa will cease, without the excitement of some new irritation, local or constitutional, by which the former is superseded.

CHAP. VII.

Of the Treatment of occasional Symptoms of the Gonorrhœa.

As the following symptoms are only occasional consequences of a venereal gonorrhœa, being the effects of an irritation on the urethra, and therefore not venereal, they are to be treated in the same manner as if they had arisen from any other cause.

* That must of course be considered in its order.

SECTION I.

Of the Bleeding from the Urethra.

It has been already observed, that when the inflammation is violent, or spreads along the urethra, there is frequently a discharge of blood from the vessels of that part. In such bleeding, the balsam capivi, given internally, has been of service; and it may be supposed that all the turpentines will be equally useful. I have not found any good effects from astringent injections; and, in some cases, have suspected that they have been the cause of this complaint. They always go off in the usual time of the cure of the gonorrhœa.

SECTION II.

Of preventing painful Erections.

Opium, given internally, appears to have great effects in preventing painful erections in many cases. Twenty drops of tinctura thebaica, taken at bed time, has procured ease for a whole night. The cicuta likewise seems to have some powers in this way.

SECTION III.

Of the Treatment of the Chordee.

In the beginning of this complaint, bleeding from the arm is often of service; but it is more immediately useful to take away blood from the part itself by leeches; for we often find by a vessel giving way in the urethra, and a considerable hæmorrhage ensuing, that the patient is greatly relieved. Relief will often be obtained by exposing the penis to the steam of hot water. Poultices likewise have beneficial effects; and both fomentations and poultices will often be assisted in removing inflammation by the addition of camphor. Opium, given internally, is of singular service; and, if it be joined with camphor, the effect will be still greater; but opium in such cases acts rather by lessening the pain than by removing the inflammation,

though, by preventing erections, it may be said to obviate the immediate cause of the complaint.

When the chordee continues after all other symptoms are gone, little or nothing, in the way of evacuation, seems to be necessary, the inflammation being subdued, and a consequence of it only remaining, which will cease gradually by the absorption of the extravasated coagulable lymph. Therefore bleeding, in this case, can be of no use. Mercurial ointment applied to the parts will promote the absorption of the extravasated coagulable lymph; for experience has shown, that mercury has considerable powers in exciting absorption. The friction itself also will be of use. In one case considerable benefit seemed to result from giving the cicuta, after the common methods of cure had been tried. Electricity may be of service. This symptom is indeed often longer in going off than either the running or pain; but no bad consequences arise from it. Its declension is gradual and uniform, as happens in most consequences of inflammation.

In relieving the chordee, or the remains of it, which appear to arise from spasm, I have known the bark of great service. Evacuations, whether from the part, or from the constitution, generally do harm.

SECTION IV.

Of the Treatment of the Suppuration of the Glands of the Urethra.

Suppurations in the glands of the urethra are to be treated as chancres. Therefore, mercury ought to be given, as will be explained hereafter.

Should a suppuration take place in Cowper's glands, it demands more attention. The abscess must be opened freely, and early, as the matter, if confined, may make its way either into the scrotum or urethra, whence would arise bad consequences. Here also mercury must be given, and perhaps as freely as in a bubo. In short, the treatment should be the same as in a venereal ulcer; and in this respect it will differ from the treatment of those abscesses which arise in consequence of stricture.

SECTION V.

Of the Treatment of the Affection of the Bladder from Gonorrhœa.

When the disease extends as far as the bladder, it produces a most troublesome complaint, from which, however, bad consequences seldom arise. But I suspect that it sometimes has laid the groundwork of future irritation in that part, which has proved very troublesome, and even dangerous.

Opiate clysters, if nothing in the constitution forbid the use of them, procure considerable temporary relief. The warm bath is of service, although not always; and bleeding freely, if the patient is of a full habit, often does good. Leeches, also, applied to the perinæum, have good effects; but in many constitutions, bleeding will rather do harm; and we should be cautious in making use of this evacuation, for it has been already observed, that many of these cases are rather from sympathy than inflammation. As this affection of the bladder often continues for a considerable time, producing other sympathies in the neighbouring parts, and is not in the least mitigated by the methods commonly used, I would recommend the following trials to be made use of in such cases. An opiate plaster to be applied to the pubes, or the small of the back, where the nerves of the bladder take their origin; a small blister on the perinæum, which is of service in irritations of the bladder arising from other causes.

In all cases of doubt concerning bleeding, it is of the first importance to learn the constitution of the patient, as well as his general habits. Whether he is subject to plethoric diseases, or to hæmorrhages which have not appeared for some time? Whether he was in better health than ordinary before the violent symptoms occurred? We must never trust to appearances on these occasions; oftentimes those whose countenance is the most sanguineous being the most irritable, and bearing a free use of the lancet the least.

SECTION VI.

Of the Treatment of the Swelled Testicle.

When the testicle sympathizes either with the urethra or bladder, and is inflamed, rest is the best remedy. The horizontal position of the body is the easiest, as such a position is the best for a free circu-

lation. If the patient cannot submit to an horizontal position, it is absolutely necessary to have the testicle well suspended. Indeed the patient will be happy in having recourse to that expedient as soon as he is acquainted with the ease which it affords.

In this complaint, perhaps, no particular method of cure can be laid down. It is to be treated as inflammation in general, by bleeding and purging, if the constitution requires them, and by fomentation and poultices. Bleeding with leeches has often been of service. This we cannot well account for, as the vessels of the scrotum have but little connection with those of the testicle.

As I do not look upon the swelling of the testicle to be venereal, mercurials, in my opinion, can be of no service in these cases while the inflammation continues, but they are useful when that is gone, and the induration only remains.

Vomits have been recommended in such cases, and are sometimes of service. I have known a vomit remove the swelling almost instantaneously. The effects of the vomit most probably arise from the sympathy between the stomach and the testicle. Opiates are of service, as they are in most irritations of those parts. When such swellings suppurate, which they seldom do, they require only to be treated as common suppurations; and mercury need not be given.

In the history of this disease I observed, and indeed it has been observed by most writers, that when a swelling comes upon the testicle, in consequence of a gonorrhœa, the running ceases; or when the running ceases, the testicle swells; but which is the cause, or which is the effect, has not yet been ascertained. It has been also observed, that when the running returns, the testicle then shows the first symptoms of recovery; so that the testicle having lost its sympathizing action, the action is restored to the urethra. And here also it has not yet been ascertained, which is the cause, or which is the effect; but from a supposition that the cessation of the discharge in the urethra is the cause of the swelling, it has been attributed to the mode of treatment of that irritation, and by some to injections.

It has been advised by many, and attempted by some, to procure a return of the running; but the methods used have hardly been founded upon any sound principle. Mr. Bromfield appears to have been the first who recommended a treatment suitable to this theory, which was to irritate the urethra to suppuration again, by introducing bougies. I have not seen that benefit that could have been wished, or that the first idea might induce us to expect, from this practice. Some have gone further, by recommending the introduction of venereal matter into the urethra; but this appears to be only conceit, and is founded upon a supposition that such swellings arise only from venereal irritations. But I have already observed, that they are produced by other causes.

It is generally a long time before the swelling of the testicle entirely subsides, although it does so more quickly at first than swellings

of this part arising from other causes. Before it becomes less, it generally becomes softer, commonly on the anterior surface; and, by degrees, the whole becomes perhaps softer than natural, and then it diminishes. It is still much longer (sometimes even years) before the epididymis returns to its natural state; sometimes it is never reduced to its natural size and softness. However, this is of no great consequence, as no inconvenience results from a continuance of the hardness simply; though sometimes, perhaps, such testicles are rendered totally useless. I never had an opportunity of examining the testicle of one that was known to have this complaint; but have examined testicles where the epididymis has had the same external feel, and where the canal of the vas deferens has been obliterated. But this, I suspect too, seldom happens, for there are people who have both testicles swelled, and, notwithstanding, discharge their semen as before.

It is in this stage of the complaint that resolvents may be of service, such as mercurial friction joined with camphor. Likewise, we may usefully apply fumigations with aromatic herbs, in order to stimulate the absorbents to take up the superfluous matter. Electricity has been in some cases of singular service.

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There cannot be a stronger proof than this chapter affords of the advantage medicine, in common with all other arts, derives from close reasoning, drawn from facts which are obvious to the senses.

If the swelling of the testicle arose from a translation of matter from the urethra to the testicle, we should invariably find, that, as the latter subsided, the former would return. But this is by no means the case; for, when the inflammation of the testicle is very violent, and continues long, it often happens that the discharge from the urethra will not return when that swelling and inflammation cease.

During the inflammatory stage of gonorrhœa virulenta, all the parts connected with the urethra become highly irritable; and a very slight cause, the mere friction of the scrotum under violent exercise, may be sufficient to excite inflammation in the testicles. If that inflammation is very violent, it will so occupy the constitution by universal sympathy, (see Introduction,) as to spend all other violent actions; and if this continues long, the inflammation may not return to the urethra on its cessation in the testicle.

SECTION VII.

Of the Decline and Termination of the Symptoms of Gonorrhœa.

The decline of the disease is generally known by an abatement of some or all of the above-mentioned symptoms. The pain in the part becomes less, or terminates in an itching similar to what is felt in the beginning of many gonorrhœas, and at last entirely goes off. The sense of weariness about the loins, hips, testicles, and scrotum, is no longer felt; and the transparent cherry-like appearance of the glans penis gradually disappears. These are the most certain signs of an abatement of the disease.

The running becomes less; or, if it does not diminish, becomes first whiter, then of a paler colour, and gradually acquires a more slimy and ropy consistence, which has always been considered as the most certain sign of an approaching cure. When the running becomes more slimy, it is then changed from matter to the natural fluid which lubricates the passage, and also to that fluid which appears to be preparatory to coition; but it is often very inconstant in its appearances, arising frequently from different modes of living, exercise, or other causes.

It often happens that all the symptoms shall totally disappear, and the patients shall think themselves cured; and yet the same symptoms shall come upon them anew, commonly indeed milder than at first, though in some cases as violent, or even more violent; and this takes place sometimes at a considerable distance of time. I have known the symptoms return a month after every appearance of the disease has been removed. However, in such cases, they seldom last long. How far this second attack is to be looked upon as truly venereal, has not as yet been ascertained. Nothing can prove it absolutely to be venereal but the circumstance of having given it to a sound person. What may be the case with those in whom it has returned soon after the going off of the symptoms, I will not pretend to say; but I should very much suspect that, where the patient has continued well for a month, a return cannot be venereal. This is only conjecture; and if we were to reason upon it, we might easily reason ourselves into a belief of its being venereal; for if the parts can fall back again into one mode of action, that of inflammation and suppuration, there can be no reason why they should not fall back again into the specific mode of action. However, as the common effect of irritation is suppuration, and as the specific suppuration requires a peculiar irritation, it is easier to conceive that the parts may fall into the common mode of action, than into both. It is possible, however, that in such cases, the venereal action may be only

suspended, similar to what happens between the contamination and complete appearance of the disease.

In women, returns of the symptoms are more frequent than in men, particularly of the discharge; which, being similar to the fluor albus, and frequently taken for that disease, gives less suspicion, although they are perhaps equally virulent as those in men.

The distinction between a gonorrhœa and a gleet is not yet ascertained; for the inflammation subsiding, the pain going off, and the matter altering, are no proofs that the poison is destroyed. It is no more necessary that there should be a continuance of the inflammation to produce the specific poison, than there should be a continuance of the inflammation to produce the gleet, as will appear evident from two cases before related.*

The first of these cases shows that the inflammation is not necessary to the existence of the venereal poison; and, on the contrary, the inflammation may exist after the matter discharged has ceased to be venereal. I have known cases where the inflammation and discharge have continued for twelve months, and with considerable violence: in the mean time a free intercourse with women has not communicated the disease. However, this is not an absolute proof that there is no virus in the discharge.

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These considerations relative to the return of the disease are very important, and it is oftentimes very painful to witness the incredulity of surgeons when conversing with their patients.

CHAP. VIII.

Observations on the Symptoms which often remain after the Disease is subdued.

It often happens, after the virus is destroyed, and the venereal inflammation removed, that some one, two, or more of the symptoms shall continue, and perhaps prove more obstinate than the original disease itself. Some of these symptoms shall continue through life, and even new ones shall sometimes arise as soon as the first have subsided. All these symptoms are commonly imputed by the patients themselves, and, what is still worse, by some of the profession, to the original disease having been ill treated. But, certainly, so far as

* Vide pages 48 & seq.

we are yet acquainted with the disease and method of cure, this is not true; for the methods of treatment, though numerous, may be said to be very similar; and we shall find these symptoms not to be consequences of any one mode of treatment, but that they happen indiscriminately after them all. Yet I can conceive that many constitutions, and particular parts, often require one mode of treatment in preference to another, and probably require modes that we are not as yet acquainted with; but if these peculiarities of constitution, or of parts, are not yet known, which must often be the case, the practitioner is not to be rashly accused of ignorance.

In the Introduction I observed, that the venereal disease is capable of calling into action such susceptibilities as are remarkably strong, and peculiar to certain constitutions, and countries; and that, as the scrofula is predominant in this country, some of the effects of gonorrhœa may partake of a scrofulous nature.

The symptoms which continue after the virus is gone do not owe their continuance to the specific qualities of the virus, but to its effects upon the parts, such as inflammation and its consequences; for the same degree of inflammation, arising from any other cause, would leave most of the same effects. But I suspect that the continuance of the discharge, called a gleet, is an exception to this; for we find that it is often cured by the same mode of action which would produce the other symptoms; that is, inflammation; and we find, in general, that a discharge brought on by violence of no specific kind, does not last longer than the violence, even although the cause has been continued for some time, as is often the case during the use of bougies.

The first of the continued symptoms may be reckoned the remains of the disagreeable sensations excited by the original disease.

The second, the discharge called a gleet.

The third, the chordee.

The fourth, the irritable state of the bladder.

The fifth, the increase and hardness of the epididymis.

The remarks on the gleet, contained in this section, afford a further presumption, that venereal gonorrhœa does not cure itself. Mr. Hunter admits, that the gleet is often infectious. Is it not therefore a continuance of the same virulent action, after the inflammation has ceased, from the parts becoming accustomed to that action? He admits, also, that a new inflammation, arising from a different cause, will cure it; that is, will supersede the virulent action. He also remarks, that this remaining action of a discharge continuing after the inflammation has ceased, is in some measure peculiar to virulent gonorrhœa.—The fair inference from all this seems, that the inflamma-

tion attending gonorrhœa will cease of itself; yet if this inflammation was first excited by the contagious action, that action, that is, the secretion of contagious matter, will remain till superseded by some new action.

SECTION I.

Of the Remains of the disagreeable Sensations excited by the original Disease.

The disagreeable sensations which continue in the urethra and glans occur most frequently when the bladder has sympathized with the urethra during the disease; for then there are often the remains of the old shooting pains in the glans, or on its surface, which take their rise from the bladder. These, however, commonly go off, seldom being the forerunners of any bad symptoms, and therefore are not to be considered as part of the disease, but merely a consequence; yet they are often very troublesome and teazing to the patient, keeping his mind in doubt whether he is cured or not, which makes him frequently become the dupe of ignorant or designing men.

As these remaining sensations vary considerably in their nature, perhaps no one method of treatment will always be proper. I have known a bougie, introduced a few times, take off entirely the disagreeable sensations in the urethra; and I have known it do no good. Gentle irritating injections, used occasionally, will often alleviate, in some degree, those complaints. A grain of corrosive sublimate to eight ounces of water makes a good injection for this purpose; but all such applications are in general no more than palliatives.

I have known the use of hemlock relieve the symptoms very much, and, in some cases, entirely cure them; while, in many others, it has not had the least effect.

A blister applied to the perinæum will entirely cure some of the remaining symptoms, even when they extend towards the bladder, as will be explained hereafter. Indeed, it appears to have more effect than any other remedy. A blister to the small of the back will also give relief, but not so effectually as when applied to the perinæum.

The following cases are remarkable instances of this:—A Portuguese gentleman, about twenty-five years of age, had contracted a venereal gonorrhœa of which he was cured; but two years after many of the symptoms still continued, and even with considerable violence. The symptoms were the following: a frequency in mak-

ing water, and, when the inclination came on, he could not retain it a moment; a straining, and pain in the bladder after voiding it; a constant pain in the region of the bladder; a shooting pain in the urethra, which extended often to the anus; strange sensations in the perinæum; a sense of weariness in the testicles; and if he at any time pressed his thighs close together, the pain or sensation in the perinæum was excited. It was supposed at Lisbon that he had the stone, and he came over to London for a cure of that disease. He was examined, but no stone was found. He was ordered to wash the external parts every morning with cold water, which he did for a fortnight, but found no benefit. I was consulted, and informed of all the above-mentioned circumstances. As a staff had been passed, there could be no stricture; however, I thought it was possible there might be a diseased prostate gland, and therefore examined him by the anus; but found that gland of its natural size and firmness. As there was no visible alteration of structure any where to be found, I looked upon the disease as only a wrong action of the parts, and therefore ordered a blister to be applied to the perinæum, which being kept open only a few days, all the symptoms were entirely removed. He retained his water as usual; all the disagreeable sensations went off; and the blistered part was allowed to heal. About a fortnight after, he got a fresh venereal gonorrhœa, which alarmed him very much, as he was afraid it might bring back all his former symptoms, which however did not return, and he was soon cured of the gonorrhœa. He staid in London some time after, without any relapse.

Another case was that of a gentleman's servant in the country. He had, from a venereal cause, a disagreeable sensation whenever he made water; also a running, and some degree of chordee; which symptoms he had laboured under for a considerable time. He had gone through a course of mercury, which lasted two months, on a supposition that the venereal virus had not been destroyed, but without benefit. He had, after that, been bled; used powders of gum arabic and tragacanth; and taken calomel in small doses, with no better success. He then had recourse to injections and bougies of all kinds, but with no better success. On the ground of the symptoms not being venereal, but only wrong actions of the parts, a blister was applied upon the perinæum, repeated and kept open six days, upon which the symptoms totally disappeared, and had not recurred a twelvemonth afterwards.

This practice is not only of service where there has been a preceding gonorrhœa, but I have found it remove, almost immediately, suppressions of urine from other causes, where the turpentines and opium, both by the mouth and anus, had proved ineffectual, and when the catheter had been necessarily introduced twice a day, to draw off the water. But of this more fully hereafter.

Electricity has been found to be of service in some cases, and therefore may be tried, either in the first instance, or when other means have failed.

SECTION II.

Of a Gleet.

WHATEVER method has been had recourse to in the cure of the venereal inflammation, whether injections have been used, or internal medicines, (mercurials, purgatives, or astringents,) it often happens that the formation of pus shall continue, and prove more tedious and difficult of cure than the original disease. For, as I have already observed, the venereal inflammation is of such a nature as to go off of itself, or to wear itself out; or, in other words, it is such an action of the living powers as can subsist only for a certain time. But this is not the case with a gleet, which seems to take its rise from a habit of action which the parts have contracted, and as they have no disposition to lay aside this action, it of course is continued; for we find in those gonorrhœas which last long, and are tedious in their cure, that this habit is more rooted than in those which go off soon.

This disease, however, has not always the disposition to continue, for it often appears to stop of itself, even after every method has been ineffectually used. It is most probable that this arises from some accidental changes in the constitution, not at all depending upon the nature of the disease itself.

I have suspected that there was something scrofulous in some gleets. We find frequently that a derangement of the natural actions of a part will be the cause of that part falling into some new disease, to which there may be a strong tendency in the constitution. We find, that a cold, falling on the eyes, produces a scrofulous weakness in those parts, with a considerable discharge. There are often scrofulous swellings in the tonsils from the same cause.

This opinion of the nature of some gleets is strengthened by the methods of cure; for we find that the sea-bath cures more gleets than the common cold bath, or any other mode of bathing. I have never yet tried the internal use of those medicines which are generally given in the scrofula; but I have found sea-water diluted, and used as an injection, cure some gleets, though it is not always effectual.

A gleet is generally understood to arise from a weakness; this certainly gives us no idea of the disease, and indeed there is none which can be annexed to the expression. By mechanical weakness is understood the inability to perform some action, or sustain some force. By animal weakness the same is understood. But when the expres-

sion is applied to the animal's performing an uncommon or an additional action, I do not perfectly understand it.

Upon this idea of weakness depended, in a great measure, the usual method of cure; but we shall find that the treatment, founded on this idea, is so far from answering in all cases, that it often does harm, and that a contrary practice is successful.

A gleet differs from a gonorrhœa, first in this, that, though a consequence of it, it is perfectly innocent with respect to infection. Secondly, when is is a true gleet it is generally different in some of the constituent parts of the discharge, which consists of globular bodies floating or wrapti n a slimy mucus instead of a serum. But the urethra is so circumstanced as easily to fall back into the formation of pus, and this commonly happens upon the least increase of exercise, eating or drinking indigestible food, or any thing which increases the circulation or heats the patient. The virus, however, I believe, does not return; but of this I am not certain, for there are cases that make it very doubtful, as was before observed.

I am inclined to suspect that a gleet arises from the surface of the urethra only, and not from the glands; for I have observed, in several instances, that when the passage has just been cleared, either by the discharge of urine, or by the use of an injection, a lascivious idea has caused the natural slime to flow very pure, which I do suppose would not have happened, if the parts, secreting the liquor, had assisted in forming the gleet.

A gleet is supposed to be an attendant upon what we call a relaxed constitution; but I can hardly say that I have observed this to be the case; at least I have seen instances where I should have expected such a termination of a gonorrhœa, if this had been a general cause, but did not find it; and I have seen it in strong constitutions, at least in appearance, in every other respect. Gleets do not in all cases arise from preceding gonorrhœas, but sometimes from other diseases of the urethra. A stricture in the urethra is, I believe, almost always attended with a gleet. It sometimes arises also from a disease in the prostate gland.

When a gleet does not arise from any evident cause, nor can be supposed to be a return of a former gleet in consequence of a gonorrhœa, a stricture, or diseased prostate gland, is to be suspected; and inquiry should be made into the circumstances of making water; whether the stream is smaller than common; whether there be any difficulty in voiding it; and whether the calls to make it are frequent. If there should be such symptoms, a bougie, of a size rather less than common, ought to be used, which, if there is a stricture, will stop when it reaches it; and if it passes on to the bladder with tolerable ease, the disease is probably in the prostate gland, which should be next examined. But more fully of both these complaints hereafter.

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This chapter, on the symptoms which remain after the cure of

gonorrhœa, should be perpetually attended to, as there are no complaints by which we may gain or lose more credit; but most of all by the gleet. The only addition I can make to Mr Hunter's remarks is, to advise every practitioner to be particularly careful how he under-rates such diseases. To frighten a youth with the prospect of permanent injury from such a cause, is a piece of wanton cruelty; but it is not less proper to admit with him the irksomeness of his situation, and to feel a part of his anxiety from so inconvenient a complaint. On this account, let us be cautious how we betray any weariness at the importunity of our patient. On the contrary, let us always reflect on his situation, and the difficulty of relieving him, and on the advantage which artful people will make of our apparent inattention. When we consider the variety of constitutions, and the various conditions of the same constitution, we must not be surprised if a local chronic disease does not immediately give way to a remedy which we have generally found successful, nor should we continue to expect much from any remedy after a short unsuccessful trial. We should vary our plan more frequently than in acute or well marked diseases, always recollecting, that in chronic-local diseases, whatever remedy is successful, usually shows its effects very early. A gentleman with whom I had tried many remedies unsuccessfully suddenly got well. I was very suspicious that his cure was not imputable to me, as I had not seen him for some time. He candidly informed me that he had been cured by an injection of brandy and water, as strong as he could well bear it. Probably had I given him any other equally stimulating injection, instead of trusting to what are usually called astringents, I might have been equally successful.

But what the reader should particularly caution himself against is, the remark that the gleet is perfectly "innocent with respect to infection." How such an expression escaped Mr. Hunter, I am at a loss to ascertain. Not only the remainder of the paragraph seems to contradict it, but several other passages, in which the difficulty of ascertaining the disease and its cessation is described. In a word, a gleet, like every other disease, should be accurately inquired into as to its cause; and as in every other chronic disease, the treatment should be varied, as the next section amply shows.

SECTION III.

Of the Cure of Gleets—Constitutionally—Locally.

As this discharge has no specific quality, but depends upon the constitution of the patient, or nature of the parts themselves, there can

be no certain or fixed method of cure; and as it is very difficult to find out the true nature of different constitutions, or of parts, it becomes equally difficult to prescribe with certainty the medicines that will best suit this disease; for so great is the variety in constitutions, that what in one case proves a cure, will in another aggravate the complaint.

There are two ways of attempting the cure of this complaint, constitutionally, or locally.

Medicines, taken into the constitution with a view to the cure of gleet, may be supposed to act in three ways; as specifics,* strengtheners, and astringents.

The specific power of internal medicines upon those parts is not very great; however, we find that some of them, such as the balsams, turpentines, and cantharides, are of use, especially in slight cases. I think I have been able to ascertain this fact, that when the balsams, turpentines, or cantharides, are of service, they are almost immediately so; therefore, if upon trial they are not found to lessen, or totally remove the gleet in five or six days, I have never continued them longer. And even where they have either lessened or totally removed the gleet in that time, it will often recur upon leaving them off, and therefore they should be continued for some time after the symptoms have disappeared. I have known cases where the gleet has disappeared immediately upon the use of the balsam capivi, and recurred upon the omission of it; and I have also seen where that medicine has kept it off for more than a month, and yet it has recurred immediately upon laying it aside, and stopped again as quickly, when the patient has returned to it. In such cases, the other methods of cure should be tried. The balsams may either be given alone, or mixed with other substances, so as to make them less disagreeable.

The general strengtheners of the habit need only be given when the parts act merely as parts of that habit. The whole being disposed to act properly, these parts are also disposed to act in the same way. By general strengtheners are here meant, the cold bath, the sea-bath, the bark, and steel. Astringents, taken into the constitution, have no great powers; and if they had, they might be very improper, as any thing that could act with powers in the constitution equal to what would be necessary here, might very much affect many natural operations in the animal economy. The astringent gums and salt of steel are commonly given.

The second mode of cure is by local applications. These may be divided into four, which are, specifics, astringents, irritating medicines, and such as act by derivation.

* It may be necessary to remark here, that by specific I do not mean a specific for the disease, but only such medicines as act specifically on the parts concerned, as the turpentines, cantharides, &c.

The specifics applied locally, we may reasonably suppose, will have greater effects than when given internally, because they may be applied stronger than can safely be thrown into the circulation. Of this, I think, I have had experience.

The astringents, commonly used, are, the decoction of the bark, white vitriol, alum, and preparations of lead. The aqua vitriolica cœrulea, of the London Dispensatory, diluted with eight times its quantity of water, makes a very good astringent injection. The same observations that I made on the specifics are applicable to the astringents; I believe that they act nearly in the same manner, and have the same effect. What their mode of action is, it is difficult to say.

When either of these methods have been used, and have had the desired effect, they should be continued for a considerable time after the symptoms have disappeared; and the time must be in proportion to the duration of the complaint, or the frequency of its returns. If it has been of long standing, we may be sure that the disposition to such a complaint is strong; and if it has returned frequently, upon the least increase of circulation, we may expect the same thing to happen again. Therefore, to correct the bad habit, it is necessary to continue the medicines a considerable time.

Irritating applications are either injections or bougies, simple, or medicated with irritating medicines. Violent exercise may be considered as having the same effect. Such applications should never be used till the other methods have been fully tried and found unsuccessful. They differ from the foregoing by producing at first a greater discharge than that which they are intended to cure; and the increased discharge may or may not continue as long as the application is used. It becomes, therefore, necessary to inquire how long they are to be used, to produce a cure of the gleet. That time will generally be in proportion to the violence used, and the nature of the parts which form the matter; and according to the disposition being strong or weak joined to its duration, and the greater or less irritability of the parts. If the parts are either weak or irritable, or both, an irritating injection should not be used; if strong, and not irritable, it may be used with safety. In this last case, if it is an injection that stimulates very considerably, perhaps it may be sufficient to use it twice or thrice a day. I knew a gentleman, who threw into the urethra, for a gleet of two years standing, Goulard's extract of lead undiluted, which produced a most violent inflammation; but when the inflammation went off, the gleet was cured. Two grains of corrosive sublimate to eight ounces of water are a very good irritating injection.

If it is a gleet of long standing, it may require a week or more to remove it, even with an irritating injection; and if the injection is less irritating, so as to give but little pain, and to increase the discharge in a small degree, it may require a fortnight. But one pre-

caution is very necessary respecting the use of irritating injections; it should be first known, if possible, that they will do no harm. To know this may be difficult in many cases; but the nature of the parts is to be ascertained as nearly as possible, that is, whether they had ever been hurt before by such treatment; whether they are so susceptible of irritation, as that the irritation may be expected to run along the urethra and produce symptoms in the bladder; for in such cases irritating applications do not answer, but, on the contrary, often produce worse disorders than those which they were meant to cure.

Bougies may be classed with the irritating applications; and in many cases they act very violently as such. They appear to be more efficacious than injections; but they require longer time to produce their full effect. A simple, or unmedicated bougie is, in general, sufficient for the cure of a gleet, and requires a month or six weeks application before the cure can be depended on. If bougies are made to stimulate otherwise than as extraneous bodies, then a shorter time will generally be sufficient. Probably the best mode of medicating them would be by mixing a little turpentine, or a little camphor with the composition, so as to act specifically on the parts; but great care should be taken not to irritate too much.

The size of the bougie should be smaller than the common, and need only be five or six inches long, as it seldom happens that a greater extent of the urethra has the disposition to gleet; but no harm will arise from passing a bougie of the common length through the whole extent of the urethra.

In the cure of a gleet, attempted by means of the bougie, we have no certain rules to direct us when it should be left off; as the discharge will often continue as long as the bougie is used. If, upon leaving off the bougie after the use of it for several weeks, the running ceases, then we may hope there is a cure performed; but if it should not be in the least diminished, it is more than probable that bougies will not effect a cure, and therefore it is hardly necessary to have recourse to them again. Yet, if the gleet is in part diminished, it will be right to begin again, and probably it may be proper to increase the irritating quality of the bougie, in order to suit it to the diminished irritability of the parts.

The fourth mode of cure is by sympathy, or by producing an irritation in another part of the body, which shall destroy the mode of action in the urethra.

I knew a case of obstinate gleet attended with very disagreeable sensations in the urethra, especially at the time of making water, removed entirely by two chancres appearing upon the glans. The patient had taken all the medicines commonly recommended, and had applied the bougie, without effect.

A gentleman informed me, that he had cured two persons of gleets, by applying a blister to the under side of the urethra; and I have known several old gleets, after having baffled all common attempts,

cured by electricity. All these different methods of cure alter the disposition of the part.

In whatever way the cure is attempted, rest or quietness in most cases is of great consequence; for, as I have observed, exercise is often a cause, not only of its continuance, but of its increase and return. But this idea is not to be too rigidly adhered to, especially in cases which have been treated unsuccessfully; as I have known some that have got immediately well by riding on horseback after long disuse of that exercise.

Regularity and moderation in diet should be particularly attended to; for irregularities of this kind either hinder the cure, or bring on a return of the disease.

Intercourse with women often causes a return, or increase of gleet, and in such cases it gives suspicion of a fresh infection; but the difference between this and a fresh infection is, that here the return will follow the connection so close, as to be almost immediate, and that circumstance, joined with the other symptoms, will in general ascertain the nature of the discharge.

The cure of the gleet in women is nearly the same as in men, except in the use of what I have called specifics to the parts; for as the gleet in women is principally from the vagina, I believe that this part is not more affected by the turpentines than other parts are; but as the vagina is less irritable than the urethra in men, the astringents which are applied to it may be considerably stronger. Neither can we use the bougie in cases of gleet in the vagina; and when the gleet is only from the urethra, I imagine it is hardly ever attended to in women.

SECTION IV.

Of the remaining Chordee.

This symptom, I have already observed, often remains after every mark of the true virus is removed, and may or may not be attendant on any of the other continuing symptoms.

Mercurial ointment, applied to the part, may be of service, and if joined with camphor, its powers will be increased. I have known electricity cure a chordee of long standing. If it is the spasmodic chordee that remains, bark should be given.

I have never seen this form of the disease (the spasmodic chordee,) nor does Mr. Hunter describe it.

SECTION V.

Of the Continuance of the Irritation of the Bladder.

The irritation of the bladder sometimes continues after every other symptom has ceased, and it may be an attendant upon all, or any of the other continuing symptoms; it seldom lasts with the same violence, although it is often very troublesome. When this irritation is kept up with the same violence, the bladder itself may be suspected of being diseased; or it may arise from its connexion with other parts, such as the urethra, or prostate gland; for a stricture in the urethra coming on will prove the cause of its continuance, and a disease in the prostate gland will do the same.

Neither of these diseases will probably follow the gonorrhœa so closely as to keep up this irritation, though perhaps they may have been taking place prior to the gonorrhœa, and so contribute to its increase and continuance, which may probably be ascertained by a history of the patient preceding the present complaint; however, before the bladder itself is attempted to be cured, a bougie should be passed, and, if no stricture is found, then the prostate gland should be examined, as shall be described.

When the disease is in the bladder only, I think the pain is principally at the close of making water, and for a little while after. The cure of this symptom consists in opiate clysters, cicuta, bark, sea-bathing, and I should be inclined to recommend the application of a blister to the perinæum in men. How far opiate clysters can affect the bladder in women as they do in men, I am not certain.

SECTION VI.

Of the remaining Hardness of the Epididymis.

This symptom, I have observed, remains long after every other symptom is removed, and may continue even for life, but seldom or ever any bad consequences happen from it, if the vas deferens is not rendered impervious; and not even then if it is only in one testicle, the other being equal to all the purposes of generation. As this is the case, we must at once see, that no certain method of resolution is yet known. The application of the steam of hot water with camphor may be tried, especially in such cases as are not disposed to be permanent; and the scrotum may be rubbed with mercurial ointment joined with camphor. But, in most cases, this practice will prove too tedious, or rather too inefficacious to be long persisted in.

PART III.

CHAP. I.

Of Diseases supposed to arise in Consequence of Venereal Inflammation in the Urethra of men.

The gonorrhœa produces, or at least is supposed to produce, besides those disorders already mentioned, many others which are totally different from the original disease. How far they do all or any of them arise in consequence of this disease, is not clear; but as they are diseases of the urethra, and are both numerous and important, I mean to treat fully of them in this place. If any of these diseases arise from a gonorrhœa, they are most probably not the consequences of any specific quality in the venereal poison, but are such as might be produced by any common inflammation in those parts, as was observed of the *continued symptoms*.

In this investigation we shall find some of the complaints arising out of each other, so that there is frequently a series of them. Thus, a stricture of the urethra produces an irritable bladder, a frequent desire to make water, increased strength of the bladder, a dilatation of the urethra between the bladder and stricture, ulceration, fistulæ in perinæo, dilatation of the ureters, and enlargement of the pelvis of the kidneys, besides other complaints that are sympathetic, such as swellings of the testicle, and of the glands in the groin. I shall treat of the diseases of those parts in the order in which they most commonly arise.

It may be observed that most of these diseases, especially the diminution of distensibility in the bladder, attack men advanced beyond the middle age, although many, if not all of them, are at times found in younger subjects, and the circumstance of their appearing at this period arises probably in some degree from a long habit of an unnatural mode of life producing many diseases, such as gout; for certainly such complaints do not so frequently take place among the more uncivilized nations.

The most frequent disease in the urethra is an obstruction to the passage of the urine; it happens both in young and old, although most frequently in the latter. Before I begin to treat of this sub-

ject, I shall, for the better understanding of the whole, make some observations on the uses of this passage in its natural state.

It may first be observed, that the urethra in man is employed for two purposes. On this occasion I may be allowed to make the following general remark, that Nature has not been able to apply any one part to two uses with advantage, as might be illustrated in many instances in different animals. The animals, whose legs are contrived both for swimming and walking, are not good at either, as seals, otters, ducks, and geese. The animals, also, whose legs are intended both for walking and flying, are but badly formed for either, as the bat. The same observations are applicable to fish, for the flying fish neither swims nor flies well; and whenever parts, intended for such double functions, are diseased, both are performed imperfectly. This is immediately applicable to the urethra, for it is intended as a canal or passage both for the urine and the semen. The urine requires the simplest of all canals, and of no greater length than the distance from the bladder to the external surface, as we find the urethra in women, birds, the amphibia, and fish; but the passage for the semen in the quadruped required to be a complicated canal, and of a length capable of conveying the semen to the female, provided with many additional and necessary parts, as the corpus spongiosum urethræ, musculi acceleratores, Cowper's glands, prostate gland, and vesiculæ seminales. As all these parts are to serve the purposes of generation, and as the diseases of this canal are principally seated in them, we at once see how much the urinary organs must suffer from a connexion with parts so numerous, and so liable to disease; and what adds to the evil is, that the actions of the urinary organs are constant, and absolutely necessary for the well-being of the machine, whereas the evacuation of the semen takes place only during a certain portion of life, is then only occasional, and never essentially necessary to the existence of the individual. The force of this observation is at once seen by making the comparison between the inconveniences that attend the expulsion of the urine in the male and in the female.

The canal of the urethra is liable to such diseases as are capable of preventing in some degree the passage of the urine through it; and in some of these diseases the passage at last becomes completely obstructed. In all cases there is a diminution of the size of the canal, but in different ways. There are five modes of obstruction, four of which are diseases of the passage itself, the fifth is a consequence of the diseases of other parts. Three of the former are a lessening of the diameter of the passage; the fourth an excrescence in the passage; the fifth arises from the sides being compressed, which may be done either by exterior contiguous swellings, or by a swelling of the prostate gland.

A late theological writer has ventured to dispute the justice of this

remark; but the illustration of his objection produced, most unfortunately for him, a striking instance of the inconvenience of an organ destined for two purposes, namely, the mouth which serves the offices of the stomach and lungs. It cannot be necessary to remark how frequently these two offices interfere with each other so as to endanger life, and sometimes produce almost instant death.

SECTION I.

Of Strictures.

The three first I shall now consider, of which the first is the true permanent stricture, arising from an alteration in the structure of a part of the urethra. The second is a mixed case, composed of a permanent stricture and spasm. The third is the true spasmodic stricture. Most obstructions to the passage of the urine, if not all, are attended with nearly the same symptoms, so that there are hardly sufficient marks for distinguishing the different causes. Few take notice of the first symptoms of a stricture till they have either become violent, or have been the cause of other inconveniences. For instance, a patient shall have a considerable stricture without observing that he does not make water freely; he shall even have, in consequence of a stricture, a tendency to inflammation and suppuration in the perinæum, and not feel any obstruction to the passage of his urine, nor suspect that he has any other complaint than the inflammation in the perinæum. In all of these obstructions the stream of water becomes small, and that in proportion to the obstruction; but this symptom, though probably it is the first, is not always observed by the patient. In some the water is voided only in drops, and then it cannot escape notice; in others, the stream of urine is forked, or scattered: under such circumstances the passage should be examined with a bougie; and if one of a common size passes with tolerable ease, the fifth cause of obstruction is to be suspected, which will most probably be found to be a swelled prostate gland; for any other cause that can produce a compression of the sides of the urethra, sufficient to obstruct the urine, will be known to the patient, such as a tumour forming any where along the canal, or an inflammation along its sides. If, therefore, neither of these are known to exist, the prostate gland should be examined, as will be described hereafter.

The spasmodic obstruction will commonly explain itself when the symptoms are well investigated; for the obstruction arising from this cause will not be permanent. These obstructions, but more particu-

larly that from a permanent stricture, is generally attended with a discharge of matter or a gleet. This is often considered by the patient as the whole disease, and he applies to the surgeon for the cure of a gleet. The surgeon often perseveres in attempting the cure of this disease; but, no success attending him, at last other symptoms are observed, and a stricture is suspected either by the surgeon or patient. In diseases of this passage, and also of the prostate gland and bladder, there is commonly an uneasiness about the perinæum, anus, and lower part of the abdomen; and the patient can hardly cross his legs without pain.

CHAP. II.

Of the Permanent Stricture.

In the permanent stricture,* the patient seldom complains till he can hardly procure a passage for the urine; and frequently has a considerable degree of strangury, and even other symptoms that happen in stone and gravel, which are therefore too frequently supposed to be the causes of the complaint. The disease generally occupies no great length of the passage; at least in most of the cases that I have seen, it extended no further in breadth than if the part had been surrounded with a piece of packthread; and in many it had a good deal of that appearance. I have, however, seen the urethra irregularly contracted for above an inch in length, owing to its coats, or internal membrane, being irregularly thickened, and forming a winding canal.

A stricture does not arise in all cases from an equal contraction of the urethra all round, but in some from a contraction of one side, which probably has given the idea of its having arisen from an ulcer on that side. This contraction of one side only throws the passage to the opposite side, which often renders it difficult to pass the bougie. The contracted part is whiter than any other part of the urethra, and is harder in its consistence. In some few cases there are more strictures than one. I have seen half a dozen in one urethra; some of which were more contracted than others; and indeed many urethras, that have a stricture, have small tightnesses in other parts of them. This we learn from successive resistance felt in passing the bougie.

Every part of the urethra is not equally subject to strictures; for there appears to be one part which is much more liable to them than

* Vide plate I, fig. 1.

the whole of the urethra besides, that is, about the bulbous part. We find them, however, sometimes on this side of the bulb, but very seldom beyond it. I never saw a stricture in that part of the urethra which passes through the prostate gland; and the bulb, besides being the most frequent seat of the disease, has likewise strictures formed there of the worst kind. They are generally slow in forming, it being often several years from their being perceived before they become very troublesome.

The same stricture is not at all times equally bad; for we find that, in warm weather, it is not near so troublesome as in cold. These changes are often very quick. A cold day, even an hour of cold weather, shall produce a change in them; and the same stricture is almost always worse in winter than in summer. However, this observation is not free from exceptions; I knew one case that was always worse in the summer. There are other circumstances, besides cold, that make a stricture worse. A gentleman, who had an ague, always found the stricture increased during the fit. It is also increased by drinking, violent exercise, and by the retention of urine after an inclination to void it has been felt. This last cause is often so great as to produce a total stoppage for a time. It is sometimes rendered much worse by a small calculus passing from the bladder, of the formation of which this stricture was probably the cause. The calculus not passing will produce a total stoppage of urine, the cause of which can hardly be known at the time; and if known, it could not be remedied without an operation.*

It is impossible to say what is the cause of that alteration in the structure of the urethra which diminishes the canal: it has been ascribed to the effects of the venereal disease, and often to the method of cure. But I doubt very much if it commonly, or even ever, arises from these causes; yet as most men have had venereal complaints some time or other, it is natural to ascribe the stricture to them; and therefore it may be very difficult to refute this opinion. Many reasons, however, can be given why we should suppose, that it is not commonly a consequence of a venereal inflammation. Strictures are common to most passages in the human body; they are often to be found in the œsophagus; in the intestines, especially the rectum; in the anus; in the prepuce producing phymosis; in the lachrymal duct, producing the disease called fistula lachrymalis, where no disease had previously existed. They sometimes happen in the urethra where no venereal complaint has ever been. I have seen an instance of this kind in a young man of nineteen, who had had the complaint for eight years, and which therefore began when he was only eleven years of age. It was treated at first as stone or gravel. He was of a scrofulous habit, the lips thick, the eyes sore, a thickened cornea of one eye, and the general habit weak. This stricture was

* Vide plate IV.

in the usual place, about the membranous part of the urethra. I have seen an instance of a stricture in the urethra of a boy of four years, and a fistula in perinæo in consequence of it. They are as common to those who have had the gonorrhœa slightly, as those who have had it violently.

I knew a young gentleman who had a very bad stricture. He had had several gonorrhœas, but they were so slight that they seldom lasted a week; nor in any of them did the pain extend beyond the frænum; but the stricture was about the membranous part. Cases of this kind occur every day. They are never found to come on during the venereal inflammation, nor for some time after the infection is gone. There have been thirty, and sometimes forty, years between the cure of a gonorrhœa and the beginning of a stricture, the health being all that time perfectly good. If they arose in consequence of the venereal inflammation, we might expect to find them of some extent, because the venereal inflammation extends some way; and we should also expect to find them most frequent in that part of the urethra which is most commonly the seat of the venereal disease. But I remarked before, that they are not so frequent there as they are in other parts of the urethra.

It is supposed by many, that strictures arise from the use of injections in the cure of the gonorrhœa; but this opinion appears to be founded in prejudice; for I have seen as many strictures after gonorrhœas that have been cured without injections, as after those cured with them.

Such modes of accounting for strictures give no explanation of those where there has been no previous gonorrhœa, or where the gonorrhœa has not been cured by injections; and indeed, if we consider the mode of cure of strictures, we must see that an injection is a mild application to the urethra, compared to a bougie; yet a bougie has never been supposed, or known to be the cause of a stricture. Further, some have injected by mistake very irritating liquors, such as the undiluted extract of lead, and caustic alkali, without giving the least tendency towards a stricture, although they produced violent inflammation, and even sloughing of the internal membrane of the urethra.

By many they have been supposed to have arisen from the healing of ulcers in the urethra; but as I never saw an ulcer in these parts, except in consequence of a stricture, and as I do not believe there ever is an ulcer in the case of a common gonorrhœa, I can hardly subscribe to that opinion.

The subject of strictures is at this time a matter of no inconsiderable controversy, and not necessarily connected with the venereal disease. For this reason, and because I have but little practical knowledge on the subject, I shall dismiss it in a very few words, and

with a reference to those writers who have taken up the subject since Mr. Hunter wrote.

Mr. Hunter may be considered as the first person who has given a rational history of the disease; showing that though it may sometimes be excited by the inflammation of gonorrhœa, yet that such a cause is neither necessary nor constant. His frequent dissections of urethræ, particularly in old soldiers, some of whom had laboured for years with different complaints in that organ, gave him great opportunities of examining the alteration of the parts under every circumstance. This knowledge he turned to very important practical use, in the extensive field in which he was engaged; and it is worth remarking, that after all the controversy which has lately engaged the surgical world, the whole seems to end in a confirmation of his opinions and practice.

Mr. Home, having had the happiness of being domesticated with Mr. Hunter, could not but learn the result of his practice better than any other person. This seems to have given him a confidence in the application of the caustic, which either Mr. Hunter had not when he wrote, or which he did not think sufficiently matured for holding out to the world. Mr. Home's subsequent experience confirmed him, not only in the safety of the caustic, and its superior advantage, but also induced him to think, that the mere dilation of the urethra by a bougie was only a temporary cure, which ought to be rendered permanent by destroying the strictured part. He found, also, that so various and complicated are the sympathies of the urethra with the neighbouring parts, and even with the whole constitution, that the disease often existed without the knowledge or suspicion of the patient. Hence, by applying caustic to the urethra, he was enabled to relieve abscesses, which had withstood common remedies, in perinæo and other parts, and also what had been considered as irregular intermittents. Mr. Home's mode of applying the caustic, though bolder, was similar to Mr. Hunter's; he used also the lunar caustic, or argentum nitratum.

Mr. Whately has since proposed a different mode of causticating the parts. The lunar caustic, he remarks, kills the part; after which a slough, and consequent separation are necessary. But by applying *kali purum*, formerly called *lapis infernalis*, he proposes to form an immediate combination with the animal matter, which, united with the alkali, forms a soap. Whether all the advantages held out by that gentleman really result from this change, must be determined by gentlemen who have larger opportunities of practice.

These two writers, and particularly Mr. Home, by his well known advantages under Mr. Hunter, and his subsequent extensive practice, had so completely engaged the public mind, that the caustic seemed likely to be in as familiar use in the urethra as upon common surfaces. After this, Dr. Andrews, who had been house pupil to Mr. Home, settled at Madeira, where he had large opportunities

of trying a remedy which had never before been used in that island. His success induced him to publish several valuable cases, which were well received, as further confirmation of the safety of the caustic, and of its success in cases in which the common bougie had long been tried in vain.

It is not to be wondered if some inconveniences arose in unskilful hands, from the very liberal use of so powerful a remedy; since even Mr. Home's candour induces him to admit, that hemorrhages had sometimes occurred which gave him considerable trouble. Still, however, though the practice lost some of its popularity, nothing was produced to the public which might impede its general prevalence.

At length Mr. Wadd offered himself as a champion for restoring that cautious practice which is so conspicuous in Mr. Hunter. Though this was the first occasion on which he had appeared before the public as a writer; yet his calm mode of comparing each author with himself and with others; his striking facts; the perspicuity of his language; and his lucid arrangement; all conspired to render his pamphlet highly popular. These combined events seem to promise a restoration of Mr. Hunter's method: for though probably the success with which some practitioners have used the caustic may induce them to undervalue the dangers described by others, yet it must not be omitted, that the candour of some gentlemen has induced them to acquaint the world with difficulties which had occurred to them after they had given their decision in favour of that practice.

If I might offer any judgment of my own, it can only be from the prevalence of general opinion, as far as can be collected in the metropolis, and from what I witnessed in Dr. Andrews's practice in Madeira. By the former it would appear, that the use of the caustic was at one time too indiscriminate; by the latter that there are cases in which the common bougie is insufficient, yet which yield to the caustic. Under such circumstances, it seems reasonable to try the common bougie first, and afterwards to consider the application of the caustic like any other operation, that is, to explain to the patient the necessity of referring to it, the danger that sometimes attends it, and to leave the decision to himself. Such seems to have been Mr. Hunter's plan; and to this practitioners seem daily disposed to return.

SECTION I.

Of the Bougie.

The bougie, with its application, is perhaps one of the greatest improvements in surgery which these last thirty or forty years have produced. When I compare the practice of the present day with what it was in the year 1750, I can scarcely be persuaded that I am treating the same disease. I remember, when about that time, I was attending the first hospitals in this city, the common bougies were either a piece of lead,* or a small wax candle; and although the present bougie was known then, yet a due preference was not given to it, or its particular merit understood, as we may see from the publications of that time.

Daran was the first who improved the bougie and brought it into general use. He wrote professedly on the diseases for which it is a cure, and also of the manner of preparing it; but he has introduced so much absurdity in his descriptions of the diseases, the modes of treatment, and of the powers and composition of his bougies, as to create disgust. However, this absurdity has been much more effectual in introducing the bougie into universal use, than all the real knowledge of that time, directed by good sense, could have been. Such extravagant recommendations of particular remedies are not at all times without their use. Inoculation would have still been practised with caution, had it not been for the enthusiasm of the Suttons. Preparations of lead would not have been so universally applied, if they had not been recommended by Goulard in the most extravagant terms; nor would the hemlock have come into such general use, if its true merits only had been held forth. Improvements are often over-rated; but they come to their true value at last. Sutton has told us, that the cold regimen, in extreme, is infinitely better than the old method; but from general practice we have learned that moderation is best, which is all we yet know.

When Daran published his observations on the bougie, every surgeon sat to work to discover the composition, and each conceived that he had found it out from the bougies he had made producing the effects described by Daran. It never occurred to them that any extraneous body, of the same shape and consistence, would do the same thing.

* When lead was used in place of bougies, it has happened that a piece of the end has broken off in the bladder, which has been dissolved by injecting quicksilver. I at first suspected that quicksilver could not come in contact with lead, while in water, so as to dissolve it, but upon making the experiment I found it succeeded.

SECTION II.

Of the Treatment of the Permanent Stricture.

The cure of the permanent stricture is, I believe, to be accomplished only by local applications. Mercury has been given upon the erroneous supposition of its being venereal; but without success. The cure is either a dilatation of the contracted part, or a destruction of it by ulceration, or escharotics. The dilatation is performed by the bougie; and this is seldom or ever more than a temporary cure; for although the passage may be dilated sufficiently for the urine to pass, yet there is always the original tendency to contraction, which generally recurs sooner or later.* The ulcerative process is also effected by a bougie, and the destruction by escharotics is by means of caustics. It often happens in strictures, that the passage is so diminished as hardly to allow any water to pass, producing often a total stoppage; nor will a bougie immediately pass; and if it can be made to pass, yet no water follows it when withdrawn. In such cases, therefore, we must have recourse to the means that afford a temporary relief; such as the warm bath, which counteracts the effects of cold, and quiets any spasms that may have taken place in the parts, and clysters with opium, which have still more effect. Producing an evacuation by stool often lessens the spasm; for a spasmodic suppression of urine frequently arises from a constipation, even where there is no stricture.

The cure by dilatation is, I imagine, principally mechanical, when performed by bougies, the powers of which are in general those of a wedge. However, the ultimate effect of them is not always so simple as that of a wedge upon inanimate matter; for pressure produces action of the animal powers, either to adapt the parts to their new position, or to recede by ulceration, which gives us two very different effects of a bougie, and of course two different intentions in applying them; one to produce dilatation, the other ulceration; which last is not always so readily effected.

It generally happens, as has been already observed, that the disease has gone considerable lengths before application has been made

* In cases of stricture, when a patient applies for relief, it may often be proper to inquire into the history of the case, previous to the passing of a bougie; especially to inquire if he ever used bougies before: if he has, then to inquire into the result; if they passed readily, or if they did not pass the stricture at all: if the first, then nothing further need be asked; but if the last, then to inquire if he or his surgeon observed that they were gaining ground with the bougie, viz. If the bougie went further in before it was left off than at first; if so, then to ask him how far. If they have visibly gained ground without getting through the stricture, I am afraid that the use of the bougie must not be pursued, because it is most probable that a new passage has been formed, which makes the passing of the bougie into the stricture impossible.

for a cure, and therefore the stricture has become considerable; in so much, that it is often with great difficulty that a small bougie can be made to pass. If the case is such as will readily admit the end of a small bougie to pass, let it be ever so small, the cure is then in our power. It often happens, however, that the stricture is such as will resist the passing of a small bougie at first, and even after repeated trials. Yet it is necessary to persevere with the small bougie; for sometimes it happens, that the passage through the stricture is not in a line with the urethra itself, which of course obstructs the bougie; such strictures, I suspect, are not equally placed all round so as to throw the small passage remaining into the centre of the canal.

In many cases, where the stricture is very considerable, much trouble is given by occasional spasms; which either resist the bougie altogether, or will only let a very small one pass; though at another time they will admit one larger. In such cases I have been able to get the point of the bougie sometimes to enter, by rubbing the perinæum externally with the finger of one hand, while I pushed the bougie on with the other. This, though it does not always succeed, yet is worth the trial. Whether it alters the position of the stricture, so as to give entrance to the point of the bougie, or by sympathy removes the spasm, I will not absolutely determine; but, I believe, it rather acts by sympathy. In such cases of spasm in the stricture, I have often succeeded by letting the bougie remain a little while close to the stricture, and then pushing it on; this mode so often succeeds, that it should always be attempted when the bougie does not pass, or only passes occasionally. This will be mentioned more fully when we shall consider the spasmodic stricture.

The spasm may probably be taken off by dipping the glans penis into cold water, which succeeds sometimes in the common strangury; but this cannot be so easily done while a bougie is in the passage.

In cases of a permanent stricture, though the bougie does not at first pass, yet, after repeated trials, it will every now and then find its way, which helps to render a future trial more certain and easy. It however too often happens, that the future success does not immediately depend upon passing the bougie once or twice; for it shall pass to-day and not to-morrow; and this uncertainty shall last for weeks, notwithstanding every trial we can make; yet I may observe, that in general its introduction becomes gradually less difficult, and therefore in no case should we despair of success. It is imagined by some that the best time for trial in these cases is just after making water, as the passage is supposed to be clear and more in a straight line; but this is not confirmed by practice.

It is not an easy matter in cases where the passage is very small, to know whether the bougie has entered the stricture or not; for such slender bougies as must generally be used at first, bend so very easily, that the introducer is apt to think it is passing, while it is

only bending. A surgeon, however, should in general first make himself acquainted with the situation of the stricture, by a common sized bougie, and afterwards make use of a smaller one, and when he comes to the stricture, push gently, and for a little time only. If the bougie has passed further into the penis, he will know how far it has entered the stricture by taking off the pressure from the bougie; for if it recoil he may be sure that it has not passed, at least has not passed far, but only bent; for the natural elasticity of the bougie, and the direction of the passage having been altered by it, will force it back again. But if it remain fixed, and do not recoil, he may be sure that it has entered the stricture.

In using a very small bougie, however, these observations are not so applicable, for it may be bending, or bent, without being perceptible. It often happens, that a bougie will enter only a little way, perhaps not more than one tenth of an inch, and then bend if the pressure be continued. To determine whether this be the case, it is necessary to withdraw the bougie and examine its end; if the end be blunted, we may be sure the bougie has not entered in the least; but if it be flattened for an eighth or tenth of an inch, or grooved, or have its outer waxy coat pushed up for that length; or if there be a circular impression made upon the bougie, where the stricture is, or only a dent on one side, both of which last I suspect arise from spasm at the time, we may then be sure that it has passed as far as these appearances extend. It becomes then necessary to introduce another exactly of the same size, and in the same manner, and to let it remain as long as the patient can bear it, or convenience will allow; and by repeating this we may overcome the stricture. Sometimes we can judge of its having entered the stricture, by pulling it gently out; for if it stick a little at the first pull, we may be certain it has entered; but the appearance of the bougie itself will give the best information.* In such cases I have always directed my patient to preserve the bougie for my inspection, exactly in the same form it was when it was withdrawn. But when it passes with ease, this nicety is not necessary.

* It may be remarked, that there are some lacunæ (Vide plate I. fig. 2.) near, and also a little way from, the glans penis, which often stop the bougie, and give at first the idea of a stricture. I have known them taken for such; and when the bougie stops so near to the glans this is to be suspected, and therefore we should vary the direction of the point of the bougie, bearing it against the under side of the urethra. When the bougie stops in one of those lacunæ, I think that the patient appears to have more pain than from a real stricture. The valvular part of the prostate gland formed by disease (Vide plate V.) very often obstructs the bougie, and is taken for a stricture by those who are not well acquainted with the different obstructions in this canal; and by those who are, it is a means of discovering disease in this part; and indeed in a natural state of parts, I think I can ascertain when I come to this part with a bougie.

The time that each bougie ought to remain in the passage, must be determined by the feelings of the patient; for it should never give pain, if possible. To go beyond this point is to destroy the intention, to increase the very symptoms that are meant to be relieved, and to produce irritation, which for a time renders the further application of the bougie improper. While the bougie is passing, if the patient feel very acutely, it should not be left in the urethra above five, or at most ten minutes, or not so long if it give great pain; and each time of application should be lengthened so gradually, as to be insensible to the feelings of the patient, and the irritability of the parts. I have known it days, nay in many patients weeks, before they could allow the bougie to remain in the passage ten, or even five minutes, and yet in time they have been able to bear it for hours, and at last without any difficulty. The best time to let it remain in the passage is when the patient has least to do; or in the morning, while he is in bed, provided he can introduce it himself.

The bougie should be increased in size, according to the facility with which the stricture dilates, and the ease with which the patient bears the dilatation. If the parts are very firm, or very irritable, the increase of the size of the bougie should be slow, gradually stealing upon the parts, and allowing them to adapt their structure to the increased size. But if the sensibility of the parts will allow of it, the increase of the size of the bougie may be somewhat quicker, though never more quick than the patient can bear with ease. The increase should be continued till a bougie of the largest size passes freely; nor should this be laid aside till after three weeks, or a month, in order to habituate the dilated part to its new position, or to take off the habit of contracting from the part as much as possible; but, as was observed before, the permanency of this cure can seldom be depended upon.

Instead of proceeding with the caution recommended, it has been practised with success for a time, to force a common sized bougie through a stricture that only allowed a small one to pass. This, I suppose, either tore the stricture or weakened it by stretching it suddenly, so as to render it unable to recover its contractile power for a considerable time after. I have seen where this has produced good effects, and for a time removed the permanent stricture, and prevented spasm. This is a practice, however, which I have never tried; having always preferred the mild treatment where I could pass a bougie.

I have known the passing of the bougie remove, almost immediately, a swelling of the testicle, which had arisen from the stricture; therefore, such a symptom should not prevent the use of the bougie.

In cases of strictures, where the bougie is used, the patient is commonly in other respects well, and is with difficulty persuaded to restrain from his common habits, often making too free in eating, drinking, and exercise; which are all in many cases pernicious, more

especially where inflammation and suppuration have taken place. It is therefore the duty of the surgeon to restrict the patient for some time within certain bounds, till he finds by trials what the parts are capable of bearing without producing inflammation.

SECTION III.

Of the Cure of Stricture by Ulceration.

The cure of a stricture by means of ulceration is likewise effected by a bougie. This method may be employed both in cases where a bougie will, and where it will not pass. In the first case, there is not the same necessity for ulceration as in the second, because, where a bougie will pass, there is no immediate danger arising from the stricture, which may therefore be dilated, as has been already described But if this method should be preferred to a slow dilatation, which allows the parts time to adapt themselves to their new position, the stricture may be destroyed by producing ulceration in the parts, especially if they are not irritable, but admit of considerable violence.

When this is intended, the bougie should be introduced as far into the stricture as possible, and the size of it increased as fast as the sensations of the patient can well bear. This will produce ulceration in the part pressed, which is a more lasting cure, because more of the stricture is destroyed than when the parts are simply dilated. I believe, however, there are few patients that will submit to this practice; and indeed few will be able to bear it; for I have seen it bring on violent spasms in the part, which have produced suppression of urine, and proved very troublesome. Therefore, as there is no absolute necessity in such cases for pursuing this method, I do not recommend it as a general practice, although there have been cases in which it has succeeded. Where this method is to be practised, it might probably be right to accustom the passage to a bougie for some time before such violence is used.

If the smallest bougie, which can possibly be made, cannot be made to pass by some degree of force, dilatation becomes impracticable, and it is necessary that something else should be done for the relief of the patient; for the destruction of the stricture must be effected. In many cases it may be proper to attempt this by ulceration of the part; for we find, from experience, that a stricture may be removed by the simple pressure of a bougie. This effect must arise from the irritation of absorption being given to the diseased

part, which, from the stricture not being an originally formed part, nor having any power of resistance equal to the original one, is more susceptible of ulceration, and thereby is absorbed. The bougies, which are only to produce ulceration in consequence of their being applied to the stricture, need not to be so small as in the former cases, as they are not intended to pass; and by being of a common size, they will also be more certain in their application to the stricture. The force applied to a bougie, in this case, should not be great; for a stricture is the hardest part of the urethra; and if a bougie is applied with a considerable degree of pressure, and left in the passage, it sometimes happens that the end of it slips off the stricture before there is time for ulceration, and makes its way into the substance of the corpus spongiosum by the side of the stricture; and if the pressure be continued still longer, it will make a new passage beyond the stricture in the corpus spongiosum urethræ.* This more readily happens if the stricture be in the bend of the canal, as in such cases the bougie can hardly be applied exactly to it, not having the same curve. Such mischief I have seen more than once; and sometimes the bougie has been pushed so far as to make its way into the rectum.

It often requires a considerable time before the whole is so far ulcerated as to admit the bougie, and this tires the patient, and almost makes him despair of a cure. In this process great attention should be paid to the seeming progress of the cure; for if it appears to the surgeon that he is gaining ground by the bougie passing further in, and yet the patient does not make water better in the least, then he may be sure that he is forcing a new passage.†

When the stricture has so far yielded to these means as to admit a small bougie, the dilatation is to be made as in the former case where a bougie passed at first. Whenever a bougie of a tolerable size passes with ease, and the parts and patient have become accustomed to it, it is no longer necessary that the surgeon should continue to pass it; the patient may be allowed to introduce bougies himself; and when he can do it readily, the business may be trusted to him, as he can make use of them at the most convenient times, so that they may be applied longer at a time and oftener, the surgeon only attending occasionally. This practice of the patient under a surgeon's eye, by which he is taught how to pass them, becomes more necessary, as strictures are diseases that commonly recur; and therefore no man, who has ever had a stricture, and is cured of it, should rely on the cure as lasting, but should be always prepared for a return;

* Vide plate II.

† This makes it necessary in all cases of strictures where bougies will not pass, to be very particular in our inquiries, whether the patient has used bougies formerly; and whether there may not be reason to believe that they had taken a wrong direction.

and should always have some bougies by him. He should not go a journey, even of a week, without them; and the number should be according to the time he is to be absent, or to the place whither he is going; for in many parts of the world he cannot be supplied with them. The bougies for such purpose should be of different sizes, as it is uncertain in what degree the disease may return.

Bougies, in all cases, from their shape, and from the action of the parts, readily slip out, whereby the cure is retarded; but it is much worse when they pass into the bladder; which can only take place in cases where the stricture is in some measure overcome. The consequence of a bougie passing into the bladder must at once appear in its fullest force to every one; it subjects the patient in most cases to be cut as for the stone; and, indeed, if it is either not soon thrown out, or cut out, it becomes the basis of a stone. A young man was cut for a bougie only a fortnight after it had passed into the bladder, and it was almost wholly crusted over with calculous matter. Bougies have been known to be forced out of the bladder along with the water by the action of that viscus, and in several folds. It is probable that the bladder in a natural state has not power sufficient to perform such an action; but we shall show, that in cases of strictures where the resistance to the passing of the water is very much increased, the strength of the bladder becomes proportionably greater. This happens principally in strictures of long standing.

Such accidents are often observed before the outer end of the bougie has got beyond the projecting part of the penis, but even then it is difficult of extraction. I have succeeded in some of these cases by fixing the bougie in the urethra some way below its end; for instance, in the perinæum, by pressing against it with one hand, and pushing back the penis upon the bougie with the other hand; then laying hold of the penis upon the bougie, removing the pressure below, and drawing the whole up; and by performing these two motions alternately, I have been able to lay hold of the end of it. However, this does not always succeed, for when the bougie is either small, or becomes soft, it will not admit of the penis being pushed down upon it without bending; or if the thick end of the bougie has got beyond the moveable, or projecting part of the penis, then this mode of treatment becomes impracticable. I have succeeded in these last cases with the forceps for extracting the stone out of the urethra; but if it has got into the bend of the urethra, this practice will also fail; and in such a state it would be most advisable to pass a catheter down to it, and cut upon that; and probably the above-mentioned forceps, introduced through the wound, might then lay hold of its end; or by cutting a little further, so as to expose some part of the bougie, it might be easily extracted, without the necessity of cutting into the bladder. This part of the operation, however, would be very difficult in a fat or lusty man.

To prevent the inconveniency of the bougie coming out, or the

mischief of its passing in, it is necessary to tie a soft cotton thread round that end of the bougie which is out of the urethra, and then round the root of the glans. This last part should be very loose, for an obvious reason; and the projecting part of the bougie should also be bent down upon the penis, which makes it both less troublesome and more secure.

SECTION IV.

Of the Application of a Caustic to Strictures.

When a bougie can readily pass, there is no necessity for using any other method to remove the stricture; but there are too many cases where a bougie cannot be made to pass, or so seldom that it cannot be depended upon for a cure. This may arise from several causes. First, the stricture may be so tight as not to allow the smallest bougie to pass. Secondly, the orifice in the stricture may not be in a line with the urethra, which will make it uncertain, if not impossible, to pass a bougie. Thirdly, there may be no passage at all, it having been obliterated by disease, and the urine discharged by fistulæ in perinæo.

The first very rarely occurs, for if the passage in the stricture be in a line with the general canal, a small bougie will commonly pass; and although it may not readily do so upon every trial, it will be sufficient to make way for another bougie, which is all that is wanted.

The second case, where the canal is not in a line with the common passage, may arise from three causes. First, when the stricture is in the bend of the urethra, although the passage through it may be in the centre of the canal, yet as the bougie cannot have the exact curve, it will be very uncertain in its application Secondly, from an irregularity in the formation of the stricture, which may throw the passage to one side, even in the straight part of the urethra; and thirdly, from ulceration having taken place, producing fistulæ in perinæo, which often make the canal irregular in its course.

The third case where the application of the caustic may be necessary is, where there is no passage at all, which happens from ulceration and abscesses in the perinæum opening externally; and in the healing of them the passage is often closed up entirely. In all the above-mentioned cases, I have succeeded with the caustic beyond expectation.

If the obstructions are any where between the membranous part of the urethra and the glans, where the canal is nearly straight, or can easily be made so by the introduction of a straight instrument, it be-

comes an easy matter to destroy them by caustic; but if beyond that, it becomes then more difficult; however, at the beginning of the bend of the urethra, the obstruction may be so far removed as to admit of the passing of a bougie, or at least to procure a tolerably free passage for the urine. I have seen several cases where it was thought necessary to follow this practice, and it succeeded so well, that after a few touches with the caustic, the bougie could be passed, which is all that is wanted. The success in these cases was such as would incline me to have recourse to this practice very early; indeed, whenever I could not pass a small bougie through the stricture, I look upon the caustic as a much safer method than using pressure with a bougie, for the reason before mentioned, that is, on account of the danger of making a new passage, without destroying in the least any part of the obstruction.

Most of the strictures which I ever examined after death appeared to have been in the power of such treatment; however, I have seen one or two cases, where the contraction was of some length and irregular, which would have puzzled me if I had attempted the cure with caustic; because I should have been apt to suspect that I was making a new passage by my gaining ground, and yet not relieving the patient by the removal of the symptoms.

I have often tried this practice in strictures where there were also fistulæ in the urethra, and where the water came through different passages. Such cases were not the most favourable; yet I succeeded in the greater part of them, that is, I overcame the stricture, and could pass a bougie freely. I have seen several cases of fistulæ of these parts, where the natural passage was obliterated by the stricture, in which I have succeeded with the caustic, and the fistulous orifices have readily healed.

It does not happen always in cases of obstruction to the passage of the urine, that when the obstruction is removed by the caustic, and the water of course passes freely, a bougie will also pass. This I apprehend arises from the caustic not having destroyed the stricture in a direct line with the urethra, so as to allow a bougie to catch the sound urethra beyond. But this appears to me of little consequence, as it is as much in the power of the bougie to prevent a return at this part as if it had passed on to the bladder; for if the water flows readily, it is certain that the caustic has gone beyond the stricture, although it may not be in a direct line, and that the only risk of a return of obstruction will be at the old stricture; but as a bougie can now pass beyond that part, it does as much good as if it passed into the bladder; for I have known several cases where the bougie appeared to have the same effect as if it had passed on to the bladder.

The application of the caustic need not be longer than a minute, and it may be repeated every day, or every other day, allowing time for the slough to come off. But there are other causes that may prevent the repetition of the caustic, besides waiting for the separation of the

slough; for sometimes the use of it brings on irritation, inflammation, or spasm in the part, which frequently occasions a total suppression of urine for a time, against which all the means, used commonly on such occasions to procure relief, must be employed, and we must wait till these symptoms are gone off. If the patient can make water immediately after the application, it will be proper; as it will wash away any caustic that may have been dissolved in the passage, which if left would irritate the parts. A little water injected into the urethra will answer the same purpose.

About the year 1752, I attended a chimney-sweeper labouring under a stricture. He was the first patient I ever had under this disease. Not finding that I gained any advantage after six months trial with the bougie, I conceived that I might be able to destroy the stricture by escharotics;* and my first attempt was with red precipitate. I applied to the end of a bougie some salve, and then dipped it into red precipitate. This bougie I passed down to the stricture; but I found that it brought on considerable inflammation all along the inside of the passage, which I attributed to the precipitate being rubbed off in passing the bougie. I then introduced a silver cannula down to the stricture, and through this cannula passed the bougie with precipitate as before. Not finding, however, that the patient made water any better, and not as yet being able to pass the smallest bougie through the stricture, I suspected that the precipitate had not sufficient powers to destroy it. I therefore took a small piece of lunar caustic, and fastened it on the end of a wire with sealing wax, and introduced it through the cannula to the stricture. After having done this three times, at two days interval, I found that the man voided his urine much more freely. Upon the application of the caustic a fourth time, my cannula went through the stricture.† A bougie was afterwards passed for some little time till he was perfectly well.

Having succeeded so well in this case, I was encouraged to apply my mind to the invention of some instrument better suited to the purpose than the before-mentioned, which I have in some degree effected, although it is not yet perfectly adapted to all the situations of stricture in the urethra. The caustic should be prevented from hurting any other part of the canal; which is best done by introducing it through a cannula to the stricture, making it protrude a little beyond the end of the cannula, by which it acts only upon the stricture. The caustic should be fixed in a small portcrayon. It is necessary to have a piece of silver of the length of the cannula, with a ring at one end, and a button at the other, of the same diameter with the cannula, forming a kind of plug, which should project beyond the end of the cannula

* Having lately looked over some authors on this disease, I find that this is not a new idea.

† Wiseman had the same idea, but probably the clumsy way in which he attempted to put it in execution might be the reason why he seems not to have pursued it.

that enters the urethra, by which means it makes a rounded end; or the portcrayon may be formed with this button at the other end. The button being introduced into the cannula, it should be passed into the urethra; and when it reaches the stricture, the silver plug should be withdrawn, and the portcrayon with the caustic introduced in its place; or, if the plug and portcrayon are on the same instrument, then it is only withdrawing the plug, and introducing the portcrayon with the caustic. This plug, besides giving a smooth rounded end to the cannula, answers another good purpose, by preventing the cannula from being filled with the mucus of the urethra, as it passes along, which mucus would be collected in the end of it, dissolve the caustic too soon, and hinder its application to the stricture.*

If the stricture be in the bend of the urethra, the cannula may be bent at the end also; but it becomes more difficult to introduce a piece of caustic through such a cannula, for the plug and portcrayon must also be bent at the end, which cannot be made to pass through the straight part of the cannula; but this I have in some measure obviated, by having the cannula made flexible, except at the end where it is to take the curve.†

After the bougie can be made to pass, the case is to be treated as a common stricture, either by dilating it slowly, or by quickly increasing the size of the bougie, and thus continuing the ulceration.

There are sometimes more strictures than one; but it seldom happens that they are all equally strong. One only becomes the object of our attention. The smaller ones may, however, be sufficient to hinder the passing the cannula to that which is to be destroyed by the caustic. When that is the case, those small strictures are to be dilated with bougies, as in common, till they are sufficiently large to allow the cannula to pass.

CHAP. III.

Of Strictures in Women.

Obstructions to the urine in women, I believe, generally arise from stricture, although not always; for I have known them produced by compression from some adjacent swelling; and they are common in uterogestation, as also in dropsical or scirrhous ovaria. But such causes are commonly known long before this effect is produced, by which the suppression is easily accounted for. It may also arise from excrescences as in men.

* Vide plate III, fig. 1.

† Vide plate III, fig. 2 and 3.

How far a stricture, in the urethra of this sex, is really a consequence of a venereal inflammation, I am not certain; but I should suppose it is not; and for stronger reasons still than those which I gave in speaking of the cause of strictures in men; for I can say, that none of the strictures that I have seen in women have arisen in consequence of this disease; at least I had no reason to believe that they did; and I have observed before, that in most women who have the venereal disease in the form of a gonorrhœa, it seldom attacks the urethra. Therefore, if we find a stricture in a woman who has had the disease, we are not to impute it to that, at least till we can ascertain the urethra was affected; and even then it will remain doubtful.

Strictures are not near so common in women as in men. This may be owing to the great difference in the length of the two canals; but more especially to the canal in women being more simple, and intended only for one purpose. The stricture in women does not produce such a variety of symptoms, or so much mischief, as in men, there not being so many parts to be affected.

SECTION I.

Of the Cure of Strictures in Women.

The cure of strictures in the urethra of women is similar to that in men; but it is rather more simple from the simplicity of the parts. There is, however, an inconvenience attending the passing the bougie in women, that does not occur in men, which is, that in most cases it must be passed for them, it being hardly possible for a woman to introduce a bougie herself. The confinement of the bougie is also more difficult; for although it can easily be prevented from going into the bladder by bending the outer end down upon the mouth of the vagina, yet it is very difficult to prevent it from slipping out. It will be necessary to have a bandage of the T kind passing down between the labia over the bend of the bougie.

It appears to me that the caustic would answer extremely well in such cases; and therefore I should prefer it to the bougie, both for convenience and efficacy.

SECTION II.

Of the Gleet in consequence of a Stricture.

I HAVE already observed, that it happens generally, if not always, that there is a gleet when there is a stricture in the urethra. This I suppose to arise from the irritation produced in the urethra beyond the stricture, by the urine in its passage distending this part too much, which distention is increased by the increased strength of the bladder. This symptom often leads us to the knowledge of a stricture, or at least gives a suspicion of such a disease; and when a stricture is known to be the cause, no attempts should be made to cure the gleet, for it is generally cured when the stricture is removed; but if it still remains, it may be cured in the manner recommended in the common gleet, as probably arising from a cause different from stricture.

CHAP. IV.

Of Stricture attended with Spasmodic Affection.

THERE are very few strictures that are not more or less attended with spasms; but some much more than others, the spasm being in some cases more the disease than the stricture itself. But real strictures are attended with occasional contractions, which make the passing of the urine much more difficult at one time than another. In all the cases that I have seen of this kind, when not attended with spasms, the disease is not formidable; but when the parts are in a spasmodic state, the symptoms are as violent as in the simple stricture.

As this is a mixed case, it has all the characters both of the permanent and spasmodic stricture; for the urethra in such circumstances is in a state similar to what it is in the true spasmodic kind, being very irritable, giving great pain in the passing of the bougie, and often rejecting it altogether, as will be taken notice of when we shall treat of that disease.

Upon considering this subject we should at first hardly be disposed to believe that the spasm in the urethra is in the strictured part, which can scarcely be supposed capable of contraction; and it might therefore naturally be referred to the sound part of the urethra, as being brought on by the waters not flowing freely. If this is a just mode

of accounting for it, we must suppose that the contraction is behind the stricture, that being the only part dilated by the water; and such urethras being very irritable, that part may contract so as to stop the flowing of the water altogether. But some circumstances that occur in practice give reason to believe that such strictures have the power of contraction; for we find the bougie grasped by the stricture when allowed to remain some time; and the circumstance of the strictured parts refusing the bougie, at times, is also a proof of the same.

There is sometimes this singular circumstance attending these cases, that when there arises a gonorrhœa, or any other discharge of matter from the urethra, or an increase of the old gleet, the passage becomes free, and allows the urine to pass as usual; but such relief is uncertain and only temporary; for, whenever the discharge ceases, the spasmodic affection returns. I think it is probable that it is only the spasm that is affected by the discharge, and not the real stricture. Two remarkable cases of this kind fell under my observation, which I shall now relate.

A gentleman had for a long time a complaint in the urethra, attended with a stricture, which was supposed to be originally from a venereal complaint. It was often attended with a discharge, which always produced a slight fever on its coming on; but while the discharge lasted the difficulty of making water was relieved, and that in proportion to the greatness of the discharge; and whenever he got a fresh gonorrhœa the same thing happened.

Another gentleman had a difficulty of making water, supposed to arise from a stricture. It was generally attended with such a running as is common to strictures; but when that discharge was much increased, then the stricture was less in proportion. During this complaint he contracted two different infections, both of which relieved him of the stricture for the time.

As this is a mixed disease, it may be thought proper to treat it with a bougie for the real stricture, and for the other to use the method to be recommended hereafter, for the cure of spasm.

It sometimes happens in these mixed kinds, that a bougie does not immediately pass, but is rejected by the spasm; but, by letting it lie in the urethra, almost close to the stricture, for ten, fifteen, or twenty minutes, you will often make it pass. This is, as it were, stealing upon it, and the water will often flow, although the bougie is not attempted to be passed on. It is often relieved by gently irritating injections.

CHAP. V.

Of some Circumstances attending the Use of Bougies—their Figure and Composition.

In cases of strictures, where a bougie is used as a wedge, not as a stimulant, and where a stricture is so far overcome as to let a bougie pass on, the question is, whether it may be better to pass the bougie through the whole length of the urethra, so that the end of it shall be in the bladder, or only to pass it through the stricture a little way, so that its end shall remain in the urethra. Nothing but experience can determine this question; and, perhaps, in such cases we seldom make a fair trial, generally pushing the bougie on to the bladder; though, if we observe the consequences of bougies not passing in those cases where they either cannot pass far beyond the stricture, or not at all, we find no inconvenience arising from this circumstance, except when they are applied with too much force, so as to make a new passage. The common idea is, that it will be more hurtful to allow the end of the bougie to lie in the urethra than in the bladder; but this seems to be more founded in theory than practice.

Some people have such a quantity of calculous matter in their urine, or so great a disposition in their urine to deposit its calculous matter, that it only requires the presence of an extraneous body in the bladder to become an immediate cause of stone; for I have observed in some, that the end of a bougie cannot remain in the bladder a few hours without being covered with a crust of calculous matter. Such people I have generally advised to use as much exercise as all other circumstances will allow.

Bougies, when first introduced, often produce sickness, and sometimes even fainting. I have seen a patient become sick, the colour leave his face, a cold sweat come on, and at last a deliquium; but all these effects soon go off, and seldom return upon a second or third trial. They at first produce an irritation on the urethra, which gives pain in the time of making water, but goes off on repetition. They produce a secretion of pus in those cases where there was none, and generally increase the discharge where there is one previous to the application of them; but this effect gradually ceases.

It frequently happens, that swellings in the lymphatic glands of the groin arise from the use of bougies; but I never saw them advance to suppuration. As in most of such cases there is a discharge of matter previous to the bougie being passed, they can hardly be owing to the absorption of matter, but must arise from sympathy.

When treating of the stricture, I observed that it was often the cause of a swelling in one or both testicles; and further, that the passing of a bougie often removed that complaint. I may now observe, that a very common consequence of the passing a bougie is a swelling of the testicle. This also arises from sympathy, and, like the swelling of the glands, is a common effect of all irritations of the urethra.

It may not be improper here to add some observations on the figure and composition of bougies. They ought to be about two inches longer than the distance between the glans and the stricture, or more if they can pass freely, so as always to allow an inch to bend upon the glans, and another to pass beyond the stricture. The thickness should be according to the size of the stricture; at first, such as will pass with a small degree of tightness, and this should be gradually increased as the contracted part enlarges. But when the urethra has become of the natural size, the bougie need not be further increased, but its use still continued, as has been observed.

With regard to the shape, they should not taper from end to end when very small, but should be nearly of an equal thickness till within an inch of their smallest end, after which they should taper to a point, forming a round wedge fitted to pass into the stricture; and this form gives them greater strength than when made to taper from one end to the other.

The consistence ought to vary according to the nature of the case, and size of the bougie. If the stricture be near the glans, a stiff bougie may be used, and the whole may be made to taper gradually, because a short bougie will always have sufficient strength for any pressure that is necessary; but if the stricture be more deeply seated, as about the bulb, where the passage begins to take a curve, the bougie must be a little thicker in its body to support the necessary pressure. If the stricture be any where in the bend of the urethra, or near the bladder, the bougie should be very flexible, (although this is contrary to our general position,) because in this case it must bend in order to adapt itself to the curve of the passage, which it ought to do with ease; for when it bends with difficulty it does not make its pressure upon the stricture, but upon the back part of the urethra, and therefore does not enter so easily; which circumstance makes it more difficult to enter a stricture near the bladder than near the glans. In the composition of the bougie the consistence is the most material thing to be considered; the medical properties, as far as known, being of little consequence. The materials of which they are commonly made are, wax, oil, and litharge. The litharge gives them smoothness, and takes off the adhesive quality which they would have if made of wax and oil only. A composition which answers well is, three pints of oil of olives, one pound of bees wax, and a pound and a half of red lead, boiled together upon a slow fire for six hours.

SECTION I.

Of a new Passage formed by Bougies.

The greatest evil arising from the improper use of the bougie, and the most dangerous, is, where it makes a new passage.* I have mentioned before that this generally arose from an attempt to produce ulceration by the application of the end of the bougie to the stricture in cases where a bougie could not pass; for in those cases where a bougie passes, there can be no danger of such an effect.

This new passage is seldom carried so far as to produce either an increase of the present disease, or a new one, although sometimes this happens; yet it prevents the cure of the original disease, for it renders both the application of the bougie and caustic to the stricture so uncertain, that a continuance of either is dangerous, as it may increase the mischief, and at last produce very bad consequences.

This new passage is generally along the side of the old one, when in that part of the urethra which is on this side of the bend, and it is made in the spongy substance of the urethra; but when it is made at the beginning of the bend, it passes on in a straight line through the body of the urethra, about the beginning of the membranous part, and goes through the cellular substance of the perinæum towards the rectum. When the new passage is made between the glans and the bend of the urethra, it may take place on either side of the canal equally, in the spongy substance of the urethra, between the canal and the skin of the penis, or scrotum; and it may be between the canal and the body of the penis. The situation of it will make some difference in the operation necessary for the cure of this complaint.

When a new passage is made, I know of no other method of cure than to open the part externally; and the opening must be made in that part of the urethra which is most convenient for coming at the stricture; regard being had to the other external parts, such as the scrotum. If the stricture be before the scrotum, the new passage will be there also, and therefore the operation must be made of course before that part; but if the stricture is opposite to the scrotum, the bottom of the new passage may also be opposite to this part; but if the new passage is of a considerable length, its bottom or termination may be in the beginning of the perinæum; and in either situation, the operation must be begun behind the scrotum, or indeed may be made a little way into it. But if the stricture and new passage are in the perinæum, then the operation is to be performed there.

The method of performing this operation is as follows: Pass a staff,

* Vide plate II.

or any such instrument, into the urethra as far as it will go, which will probably be to the bottom of the new passage; and that, we may be certain, is beyond the stricture. Feel for the end of the instrument externally, and cut upon it, making the wound about an inch long, if the disease be before the scrotum; and an inch and a half, or more, if in the perinæum. If the new passage be between the urethra and the body of the penis, then you will most probably get into the sound urethra before you come to the instrument or new passage; if so, it is not necessary to go further in order to get into the bladder, as we may be certain that this part of the urethra is behind the stricture. Having proceeded so far, take a probe, or some such instrument, and introduce it into the urethra by the wound, and pass it towards the glans, which will be passing it forwards towards the stricture. If it meet with an obstruction there, we may be certain it is the stricture, which is now to be got through, and which will afterwards be easily enlarged. To complete the operation, withdraw the probe, and introduce, in the room of it, a hollow cannula forwards to the stricture; then take another cannula, and introduce it from the glans downwards, till the two cannulas oppose each other, having the stricture between them; an assistant laying hold of the urethra on the outside, between the finger and thumb, just where the two cannulas meet, to keep them in their places; then through the upper cannula introduce a piercer, which will go through the stricture, and pass into the lower cannula; this done, withdraw the piercer, and introduce a bougie into the same cannula, in the same way, being careful that it passed into the lower cannula: then withdraw the lower cannula, and the end of the bougie will appear in the wound; lay hold of the bougie there, and withdraw the upper cannula over the bougie, leaving the bougie in the urethra; now the lower end of the bougie is to be directed into the urethra, leading on to the bladder, and pushed on to that viscus. It may be further necessary to lay the whole of the new passage open, that it may all heal up; for it is possible that this new passage may often receive the bougie, to be applied in future, which would be troublesome, and might prove an obstruction to the cure.

If the new passage be between the skin and the canal of the urethra, after cutting down to the instrument, you must go further on in search of the natural canal, and, when you have found it, introduce a probe into it towards the glans, to find the stricture; and when this is done, go on with the operation as above described.

The bougie must be left in the passage, and as it may be found difficult afterwards to introduce another readily into the bladder, the longer the first is allowed to remain, so much the more readily will the second pass. I am not yet certain but that it would be better to push on the hollow cannula at first, and keep it there for some days, at least till the inflammation is over, and the parts have adapted themselves to that body, which will make a bougie pass more easily

afterwards. The bougies must be gradually increased in size, and continued till the wound is healed up.

The first case of a new passage, formed by a bougie, which I ever saw, was at the hospital of the third regiment of guards, about the year 1765. A young soldier had a stricture, for the cure of which he had bougies regularly passed for near half a year without any relief. The bougie had gone further than at first by two inches, and therefore seemed to have gained ground on the stricture. This seemed to justify the continuance of the practice; but it being suspected that there was something more than was then understood, I was consulted, and without foreseeing what was really the case, I proposed that an opening should be made into the urethra where the obstruction was, and carried further back if necessary, in search of the sound urethra. This was accordingly done in the following manner: the grooved staff was first passed as far down as it could go, which was to the bottom of the new passage; the scrotum was pulled up upon the penis, when the end of the staff was prominent towards the skin a little way above the perinæum, and there an incision was made on the end of the staff about half an inch long; this disengaged the end of the staff, which was pushed out at the wound; then search was made for the other orifice which led to the bladder, on a supposition that that orifice was the stricture; but none being to be found, we tried to trace it by blowing with a blowpipe into the bottom and lower part of the wound; but no orifice could be observed. We then began to suspect that we were not in the urethra. To determine if we had been in the urethra, I began to dissect with care the parts at the bottom of the wound, and laid bare the musculi acceleratores. I then made an incision into the body of the urethra, and came to the true canal, which was easily discovered. When this was done we passed a probe on to the bladder; then withdrew; turned, and passed it from this wound towards the glans penis, but found that it went not much more than two inches that way, and then stopped. This struck us with a new idea of the case; for we were now sure that the end of the staff had not been in the urethra, but in a new passage made in the spongy part of the urethra, for two inches beyond the stricture. We now passed a staff from the glans down the urethra, and another up from the last wound, to see at what distance the ends of the two instruments were, which would give us the length of the stricture. We found, by taking hold of the urethra between the finger and thumb on the outside, that the two ends were close together. What was to be done next was our consideration; it immediately struck us that we might force our way through the stricture with safety. The gentleman who assisted me in the operation passed a blowpipe one-fifth of an inch in diameter, (being not sufficiently furnished with instruments,) from the wound forwards to the stricture; and then I took a silver cannula, open at both ends,

which had an iron piercer longer than itself, and passed it down to the stricture from the glans; and now the end of the cannula opposed the end of the blowpipe, and they were almost close upon one another. They were kept in this position, with the finger and thumb applied on the outside of the penis, like splints on a broken bone. I then introduced the piercer, and pushed it on, which went through the stricture into the hollow of the blowpipe. Great care was taken not to push too forcibly, lest the two ends of the hollow tubes should slip by one another, which they would do if not held firmly, as actually happened twice in this case; but we succeeded the third time. I then pushed on the cannula through the stricture, and with it pushed out the blowpipe. The next object was to pass a hollow bougie along the urethra to the bladder, to do which the small end of it was introduced into the cannula, which, being pushed on, forced out the cannula at the wound; we then passed a director into the other orifice of the urethra, leading on to the bladder, and put the end of the bougie into the groove of the director, and pushed it along the groove to the bladder; and before we withdrew the director, we turned it round with its back to the bougie, that the end of the bougie might not stop against the end of the groove, and so be pulled out again. After all this was done, one stitch was made in the urethra, but the external wound in the skin was left for the passage of the urine, that it might not insinuate itself into the cellular membrane. We dressed the wound superficially, and applied the T bandage, which was slit to go on each side of the scrotum, and just where it came to the scrotum we tied the two ends together, which supported the scrotum and kept it forwards on the penis; and the two ends that came from this knot on each side of the scrotum were tied to the circular part that came round the body. The patient had some slight fever for a day or two, and the urine came partly through the bougie, and partly by the side of it through the wound. A swelling of one testicle came on, likewise a swelling of the glands of the groin, pain in the belly, sickness, and at times vomiting, all which symptoms were owing to sympathy, and entirely went off in five or six days. The water, in nearly the same time, came entirely by the natural passage. The bougie was changed from time to time till the cure was completed.

CHAP. VI.

Of Diseases in consequence of a permanent Stricture in the Urethra.

Strictures in the urethra produce almost constantly diseases in the parts beyond them; that is, in the part of the urethra between the stricture and the bladder. They bring on in most cases a gleet, as has been described, and often a considerable distention of the part of the canal beyond the stricture; also inflammation and ulceration, and in consequence of them diseases in the surrounding parts, as in Cowper's glands, the prostate, and the surrounding cellular membrane, forming abscesses there, and at last ulceration, for the purpose of making a new passage for the urine. The bladder is also often affected, and sometimes the ureters, with the pelvis of the kidneys, and in some cases the kidneys themselves. All these are effects of every permanent obstruction to the urine; some of them are methods which nature takes to relieve the parts from the immediate complaints; such are the increase of the urethra beyond the stricture, and the enlargement of the ureters and pelvis of the kidneys, which are only to be considered as the parts accommodating themselves to the immediate consequence of the obstruction, which is the accumulation of urine. Of these complaints I shall take notice in their order.

SECTION I.

Of the Enlargement of the Urethra.

The urethra beyond the stricture I have observed is enlarged, because it is more passive than the bladder, and yields to the pressure of the urine. It is naturally passive while the bladder is acting, by which means it becomes distended in proportion to the force with which the bladder acts, and the resistance of the stricture. Its internal surface often becomes more irregular and fasciculated. It is also more irritable, the distention becoming often the immediate cause of spasms in that part; and these spasms are most probably excited with a view to counteract the efforts produced by the action of the bladder.

SECTION II.

Of the Formation of a New Passage for the Urine.

When the methods recommended above for the removal of strictures have either not been attempted, or have not succeeded, Nature endeavours to relieve herself by making a new passage for the urine, which, although it often prevents immediate death, yet, if not remedied, is productive of much inconvenience and misery to the patient through life. The mode by which Nature endeavours to procure relief is by ulceration on the inside of that part of the urethra, which is enlarged and within the stricture. The ulceration commonly begins near or close to the stricture, although the stricture may be at a considerable distance from the bladder; therefore we must suppose, that there is some circumstance besides the distention of the urethra by the urine, which determines the ulceration to a particular part. This circumstance most probably arises immediately out of its vicinity to the stricture, and may be called contiguous sympathy. The stricture is often included in the ulceration, by which it is removed, the disease cured, and a stop sometimes put to the further ulceration; but unluckily this is not always the case. We may observe, that this ulceration is always on the side next to the external surface, as is common in abscesses.

As this ulceration does not arise from preceding inflammation; and as it cannot be said that the urine acts exactly as an extraneous body, because it is in its natural passage, we find that there is but very little inflammation of the adhesive kind attending these ulcerations. We must allow, however, that the urine produces the ulcerative disposition here, like matter on the inside of an abscess, although not so readily.

Whenever, therefore, the internal membrane and substance of the urethra are removed by absorption, the water readily gets into the loose cellular membrane of the scrotum and penis, and diffuses itself all over those parts, not having been previously united by the adhesive inflammation; and as the urine has considerable irritating powers, when applied to the common cellular membrane, the parts inflame and swell. The presence of the urine prevents the adhesive inflammation from taking place; it becomes the cause of suppuration wherever it is diffused; and the irritation is often so great, more especially in cases where the urine has been allowed to become very stale, that it produces mortification first in all the cellular membrane, and afterwards in several parts of the skin; all of which, if the patient live, slough away, making a free communication between the urethra and external surface, and produce fistulæ in perinæo.

We may observe, however, that the want of the adhesive inflam-

mation in these ulcerations appears to be peculiar to that part of the urethra which lies between the membranous part and the glans penis; for we find, from experience, that when this process takes place further back, as in the prostate gland, a circumscribed abscess is generally formed. This may arise from the difference in texture of the cellular membrane of the parts, the first admitting of the diffusion of the urine very readily from the looseness of its texture, the other producing adhesions before the urine is allowed to pass; which adhesions afterwards exclude it.

It sometimes happens, that the urine gets into the spongy substance of the body of the urethra, and is immediately diffused through the whole, even to the glans penis, producing mortification of all those parts, as I have more than once seen.

When the urine has made its way into the cellular membrane, although the ulceration of the urethra is in the perinæum, yet it generally passes easily forwards into the scrotum, that part being composed of the loosest cellular membrane in the body. When the seat of the ulceration is in the membranous or bulbous part of the urethra, and the pus and urine have found their way to the scrotum, there is always a hardness extended along the perinæum to the swelled scrotum, which is in the tract of the pus.

Ulceration cannot be prevented but by destroying the stricture; but when the water is in the cellular membrane, which is the state we have been describing, the removal of the stricture will in general be too late to prevent all the mischief, although it will be necessary for the complete cure: therefore an attempt should be made to pass a bougie, for perhaps the stricture may be included in the ulceration, (as was mentioned before,) and thereby allow a bougie to pass. When this is the case, bougies must be almost constantly used to procure as free a passage forwards in the right way as possible. Where the bougie will not pass, I am afraid that the caustic, as described in the case of a stricture, would in many cases be too slow in its operation, and in others it cannot be tried, as the situation of the stricture is often such as will not admit of it.

While we are attempting the cure of the stricture, every method is to be used that removes inflammation, particularly bleeding. Great relief may be obtained by exposing the parts to the steam of hot water; but this is merely a palliative cure. The warm bath, opium, and the turpentines, given by the mouth, and also by the anus, will assist in taking off any spasmodic affection; but all these are too often insufficient, and therefore immediate relief must be attempted, both to unload the bladder, and prevent any further effusion of urine into the cellular membrane. This must be done by an operation, which consists in making an opening into the urethra somewhere beyond the stricture, and the nearer to the stricture the better.

The method of performing the operation is, first to pass a director or some such instrument into the urethra, as far as the stricture; then

to make the end of the instrument as prominent externally as possible, so as to be felt, which in such a case is often difficult, and sometimes impossible. If it can be felt, it must be cut upon, and the incision carried on a little further towards the bladder, or anus, so as to open the urethra beyond the stricture; this will be sufficient to allow the urine to escape, and to destroy the stricture. If the instrument cannot be felt at first by the finger, we must cut down towards it, which will bring it within the feel of the finger, and afterwards proceed as above directed.

If the stricture in the urethra be opposite to the scrotum, it being impossible to make the opening there, it must be made in the perinæum, in which case there can be no direction given by an instrument, as one cannot be made to pass so far; therefore we must be guided by our knowledge of the parts. The opening being made, the stricture is to be searched for as described in the operation, in cases where a false passage has been made, by passing a probe from the wound forwards towards the glans. The other steps of the operation will be nearly the same. In whichsoever way the operation is performed, a bougie must be introduced, and the wound healed up over it. In my opinion a catheter answers this purpose better.

Great attention should be still paid to the inflammation which arises in consequence of the urine having been diffused in the cellular membrane, as before described. Where the inflammation is attended with suppuration and mortification, it will be necessary, as well in this case as in that where no operation is required, to scarify the parts freely, to give an opening both to the urine and pus. Where mortification has taken place in the skin, the scarifications should be made in the mortified parts, if it can be done with equal advantage, and this with a view to prevent irritation.

In total suppressions of urine, from whatever cause, the urine should never be allowed to accumulate, and should either be drawn off frequently, or a catheter should be kept continually in the urethra and bladder; because we should on no account allow the bladder to be distended beyond an easy state; for if it be, it always brings on debilitating and alarming symptoms, as paralysis of that viscus. In many suppressions of urine, as in cases of strictures, it is impossible to draw off the water. In some cases where the urethra is ulcerated, and the urine gets into the cellular membrane of the penis, and prepuce, so as to distend them much, producing a phymosis, it becomes impossible to find the orifice of the urethra. The following case illustrates most of the preceding doctrines.

A gentleman of a scrofulous habit had often had venereal gonorrhœas, which, being severe, commonly produced swellings, or knobs, along the urethra; upon which account he was advised to avoid this disease as much as possible. When in the country, in November, 1782, he was attacked with a slight cold or fever, and a small discharge from the urethra, which he could not determine to be vene-

real. In this state he set out for London, but was seized on the road with a suppression of urine, which detained him two days at an inn. On his arrival in London, I found him feverish. He spoke to me only of a discharge from the urethra; but as I did not conceive that the fever could arise from that cause, I desired him to be easy on that account. He was taken with a shivering fit, which made us suspect it might terminate in an intermittent, and we waited for the result. He still complained of the discharge, and mentioned a soreness in the perinæum, both when he made water and when he pressed it externally. On examining the perinæum, I found a fulness there, from which I suspected a stricture, and inquired particularly how he made water in common; he declared very well, which led me from the true cause. This swelling was regarded as the effect of an inflammation, either in consequence of the fever, the disposition of the part, or both, increased by sitting in a post-chaise for several days. The part was fomented and poulticed; and leeches were applied several times. He had another shivering fit three days after the first, which, if his disease had been an intermittent, would have constituted a quartan; but he had another some hours after, which made us give up our suspicions of an intermittent. We now began to suspect that matter was forming in this part, although I could not feel any thing like a fluctuation; nor was the pain of the throbbing kind, or so acute as we commonly find it in the suppurative inflammation. What in some degree surprised me was, that the swelling came forwards along the body of the penis towards the os pubis, while it seemed to be diminishing in the perinæum. He now began to find a difficulty in making water, with a frequent desire, which increased till there was a total suppression. I pressed on the lower part of the belly, to determine whether or not the urine was secreted and accumulated in the bladder; but I could not find any fulness; nor did he then feel pain on such pressure; however, about twenty-four hours after, he began to complain of a great desire to make water, and a pain in the lower part of his belly; and the hand being placed there, a fulness of the bladder was readily felt. It was now clear that the water ought to be drawn off; but, as I still suspected mischief in the urethra as a cause in his complaint, I took the necessary precautions. I provided myself with catheters and bougies of different sizes, and to be as much upon my guard as possible, I introduced a bougie of a small size first, and found a full stop about the bulbous part of the urethra: I then took a smaller, which passed, but with difficulty. I afterwards passed a small catheter on to the stricture, where it stopped; but as it was absolutely necessary that the water should be drawn off, I used more force than I otherwise would have done: it went on, but with difficulty, and I was not certain whether it was in the natural passage, or was making a new one. When the bougie had gone so far as certainly (if in the right passage) to have entered the bladder, I found that no water came; I

therefore pressed the lower part of the belly, and the water immediately came out through the catheter; whence it appeared that the bladder had lost its power of contraction. The water was drawn off three times every day, that is, every eight hours, to give as much ease to the bladder as possible; but still it was necessary to press the belly, to assist the discharge of the urine; and it was upwards of a fortnight before the bladder began to recover its power of contracting. The swelling in the perinæum still continued, advancing along the body of the penis, and spreading a little on the pubes, it seemed to extend along the projecting part of the penis, and at last filled the whole cellular membrane of the prepuce, but did not in the least affect the scrotum. This swelling appeared to be owing to the urine having found its way into the cellular membrane of the perinæum, and from thence proceeding along the side of the penis. When the prepuce became much loaded with water, a very considerable phymosis took place, which made the introduction of the catheter into the orifice of the urethra very uncertain; so much did the swelled prepuce project over the glans. I was obliged to squeeze the water back into the body of the penis, and introduce a finger, and feel for the glans, and on this finger introduce the catheter; and in a few minutes I generally found the orifice.

The nature of the case was now plain; for ulceration had taken place beyond the stricture, and the swelling had arisen from the urine having insinuated itself into the cellular membrane of the perinæum; and as the urine escaped from the urethra, it was pushed forwards where the cellular membrane was loosest, till it got to the very end of the prepuce as before mentioned.

By this time he was become extremely low and irritable; his pulse quick and small; his tongue brown, dry, and contracted; his appetite gone, with great drought, bad sleep, and the first stages of a delirium coming on. This discovery of the true state of the case gave a change to the mode of treatment. Instead of evacuations to lessen inflammation, the bark and cordials were given, with as much food as his stomach would bear. Their effects on the constitution were almost immediate, and he began to recover, although but slowly. I made two punctures in the phymosis at the extremity, with a view both to take off the tension and to evacuate the urine from the cellular membrane, between the penis and the skin.

Blisters began to form on the skin of the penis; and at last mortification took place in several parts, especially on the prepuce, which I divided at the mortified parts, and thereby the glans became exposed, so that the catheter could now be introduced easily.

Upon squeezing the swelling from the perinæum forwards along the penis, I could force out, at the mortified parts, air, water, and some matter. The cellular membrane under the skin was almost wholly mortified. When bounds were set to the mortification, the sloughing cellular membrane began to separate; and a good deal was

cut away to keep the parts clean, and to allow of a freer vent for the matter. Now that separation was taking place, I was clear that no more water from the bladder could insinuate itself any further into the surrounding cellular membrane; therefore it was not necessary to pass the catheter any more; and the patient was allowed to make water whenever he had a call; which when he did, the water came both ways, through the urethra, and through the cellular membrane, at the openings where the skin had sloughed off. As the sloughs separated, they came forwards from behind, at the side of the scrotum, so that I could draw them out; and when most of the mortified cellular membrane was removed, I saw a part, about the size of a sixpence, of the tendinous covering of the corpus cavernosum dead, which was also allowed to slough off. Most of the water now came through the sore. The parts became more painful; he was more restless, and one morning he had a shivering fit. I endeavoured to pass a bougie down the sore, between the skin and penis, but could not; in the evening of the same day, a gush of matter and blood came out of the sore, which immediately relieved him, and he began to mend again, and continued to do so, both in the parts and his general health, the water coming both ways, but often varying in quantity between the two passages; more and more, however, came the right way, till at last the new passage closed up entirely.

While the external parts were healing, I passed a bougie occasionally, to keep the passage clear and open. To find out the situation of the internal opening, I ordered the patient to press on different parts of the perinæum while he was making water; by which means he found, that, by pressing upon a particular spot, he could stop the water from flowing through the new passage. He was directed, however, not to press too hard, for fear of forcing together the sides of the natural passage. Upon erections, the penis was bent to the side that had suffered; but in time the parts gradually recovered their natural form.

SECTION III.

Of Inflammation in the parts surrounding the Urethra.

Inflammation, arising from distention and irritation of the urethra, often extends considerably further than the surface of that canal; for the surrounding parts become the seat of inflammation, the situation of which will commonly be according to the situation of the stricture producing the distention. Thus we find the inflammation affecting the prostate gland, the membranous part of the urethra, the

bulb, and probably Cowper's glands, with other parts of the urethra between the bulb and the glans. But inflammation in the surrounding parts of the urethra is not always a consequence of distention or stricture; it arises often from other irritations in this canal, such as violent gonorrhœas, and very irritating injections. When inflammation attacks these parts, it is of the true adhesive kind; and therefore when suppuration takes place an abscess must be formed, unless the inflammation be resolved. The matter, according to a general principle in abscesses, points externally; when the seat of the abscess is either in the prostate gland, membranous part, or in the bulb, the matter will point in the perinæum; or the abscess may be formed forwards in the scrotum, or before it, according to the situation of the stricture.

The seat of these abscesses is generally so near the inner surface of the urethra, that the partition between them often gives way, and they open internally, as frequently happens in an abscess by the side of the rectum, so that the matter is at once discharged by the urethra, or carried back into the bladder to be discharged with the urine. When the internal opening only takes place, I believe it is owing to the ulceration on the inner surface of the urethra, as has been already described; and in these cases also the stricture is sometimes involved in the abscess and ulceration, by which means the water will find a free passage forwards; but the urine has also a free passage into the abscess, which we may suppose retards its healing, and often becomes the cause of its opening externally; but here, from the adhesive inflammation having taken place, the urine cannot insinuate itself into the surrounding cellular membrane, so as to produce the consequences mentioned in treating of the way in which Nature endeavours to relieve herself. In such cases we find that, upon pressing the abscess externally, the matter is squeezed into the urethra, and so out by the glans. It sometimes happens, that a catheter can be introduced into the opening of such an abscess, by which means it can be washed by injecting something through the catheter, whereby probably it may be sooner healed. It more frequently happens, that such abscesses open both internally and externally, discharging themselves both ways.

These ulcerations and suppurations, of both kinds, are to be considered as efforts of Nature; or, to speak more physiologically, as a natural consequence arising from such irritation, by which, as the urine cannot pass by the old passage, a new one is made, to prevent further mischief.

Both these diseases, when they open externally, if not properly treated, often lay the foundation for the complaint commonly called the fistula in perinæo; which is owing to the bottom of the abscess having a less disposition to heal than the external parts. It may be further supposed, that the urine passing into the abscess by the inner orifice, and making its escape by the external, keeps up a constant ir-

ritation in the sore, which in some measure may prevent an union of the sides, and rather dispose them to form themselves into a hard callous substance, the inner surface of which loses the disposition to union, and assumes the nature of an outlet.

But it is more than probable that the cause which prevents these abscesses from healing depends upon their first action often continuing in full force, that is, a diseased state of the internal parts, as will be further illustrated when we shall treat on the fistula in perinæo. They often heal up at the orifice in the skin, especially if the water has a free passage forwards; but if the internal opening is not perfectly consolidated, some water will insinuate itself into the old sore, become the cause of fresh inflammations and suppurations in the surrounding parts, which frequently open externally in different places, not following the old canal, although they sometimes communicate with it, and form branches, as it were, from the principal trunk. I have seen the scrotum, perinæum, and inside of the thigh, full of openings, which were the mouths of so many sinuses leading to the first formed abscess. When the abscess opens only externally, which is seldom the case, it is to be considered as a common abscess.

When these inflammations arise from stricture, the difficulty in making water is increased in the time of the inflammation, which is generally so great as to compress the sides of the urethra together for some way; besides, the stricture itself will become tighter from being inflamed. Inflammation in these parts, even when it does not arise from a stricture, brings on a suppression of urine; but in such cases, a bougie or catheter can be passed; the latter of which, in cases of obstruction arising from contiguous swellings, as tumors, inflammations, and swelled prostate gland, is the proper instrument, as the sides of the urethra would be pressed together immediately upon withdrawing the bougie, by which the urine would be as much as ever prevented from following.

SECTION IV.

Of the Treatment of the Inflammation in the surrounding Parts.

The inflammation of these parts is to be treated like other inflammations. Resolution is much to be wished for; but it is almost impossible it should take place where stricture is the cause. When the stricture is removed, either by ulceration or a bougie, we have only the inflammation to contend with; but this seldom happens, for the inflammation is but too often accompanied with suppuration.

When suppuration takes place, the sooner the abscess is opened

externally, the better, as that may in some cases be the means, though seldom, of preventing its opening internally; yet it may prevent the inner opening from becoming so large as it otherwise might be. The opening externally should be large; and if the stricture is not involved in the suppuration, then it must be destroyed; because there can be no cure while the water passes through the new opening. I have succeeded with the caustic even in strictures of long standing.

When the stricture will admit of the passage of a bougie through it, it is to be kept almost constantly in the urethra, and to be withdrawn only at the time of making water; this will allow the urine to pass more freely through the urethra, without escaping through the sore. The sore must be healed from the bottom.

Hollow bougies are recommended in such cases, after the stricture is destroyed, to prevent the urine passing through the wound. This instrument admits of a constant dribbling of urine through it; but the bougie may be occasionally stopped up, and the urine permitted to pass when there is a desire to make water. It becomes, under certain circumstances, the worst instrument possible; for if its canal is not of a size sufficient to let the water pass as freely as the contraction of the bladder requires, the water will pass easily by the side of the bougie to the abscess, and not getting forwards beyond the stricture, flow out at the abscess: to avoid this effect as much as possible, the hollow bougies should be as large as the strictured part will allow, and its sides should be as thin as possible, that its passage may be the larger. The elastic gum has these two properties in a higher degree than the spiral wire covered with waxed cloth. But, as I doubt very much that the passage of the urine may be an hinderance to the healing of the sore, I am the less solicitous about such practice; for we find, that after lithotomy the parts heal very readily; and, even in this operation, the external parts which are not diseased heal up very readily. I suspect that the want of disposition to heal arises from the strictures not being sufficiently subdued, or the deeper parts not being in a healthy state.

When these suppurations are left to themselves, and no method tried to remove the stricture, and of course nothing introduced into the urethra, the stricture sometimes closes entirely, so that no water can pass forwards through the urethra; and therefore before any attempt can be made to heal the fistulous orifices, a passage must be made through the united parts. This cannot be done with a bougie; and if this union of the parts is before the bend of the urethra, which most commonly it is, nothing but the caustic can be applied with any prospect of success, as we shall mention more fully in treating of the fistula in perinæo.

SECTION V.

Of the Effects of Inflammation in the surrounding Parts upon the Constitution.

The effects which these attempts to form a new passage for the urine have upon the constitution are very considerable; much more so than what one would at first expect. Those cases appear to be most formidable which begin by ulceration on the inner surface of the urethra, and where the water diffuses itself into the cellular membrane of the scrotum and penis.

Those where the inflammation is circumscribed are more of the true abscess, and therefore do much less mischief to the parts than when the urine is diffused in the cellular membrane. In these last, if not soon relieved, the patient sinks, and a mortification comes on. If, before the patient sinks, a separation of the slough takes place, this separation performs the operation of opening, and the patient may recover. We should not, I believe, wait for such separation of the mortified part, but make an opening early, upon the first knowledge of a diffusion of water into the cellular membrane; and we should be guided as to situation by introducing a staff into the urethra on to the stricture. But in some cases this cannot be done; for when the urine gets into the corpus spongiosum, it produces mortification of all these parts, and renders the whole so indistinct that often no urethra can be found.

The effects that the circumscribed inflammation has upon the constitution is generally not so serious as the above, for mortification as seldom takes place in this as in abscesses in general. When the abscess is from the bulb backwards, there is generally a smart sympathetic fever, because the abscess will be of considerable size before it gets to the skin of the perinæum, and is generally attended with great pain; but this pain goes off by the formation of the matter, especially if opened early.

As there is a great disposition to violent action, attended with great weakness in such cases, more especially in those of the first kind, it is advisable to give the bark early, and in considerable quantity; but I apprehend it is necessary to give along with it sudorifics, as some of the preparations of antimony, there being generally a good deal of fever. The bark gives strength, and also in some degree lessens irritability; but it should be assisted by other medicines.

SECTION VI.

Of Fistulæ in Perinæa.

It often happens that the new passages for the urine do not heal on account of the stricture not being removed; and even when the stricture is removed, they frequently have no disposition to heal. In both cases they become fistulous, and produce fresh inflammations and suppurations, which do not always open into the old sore, but make new openings externally. These sometimes arise from the first external openings not being sufficiently large, so that they heal up long before the bottom, or long before the diseased urethra; and even when the external opening has been made as large as possible, it will often heal sooner than the bottom, and become fistulous at last.

It is very common for these diseases to affect the constitution, so as to bring on complaints of an intermittent kind. I have seen several affected with regular agues, where the bark has produced no effect; but whenever the obstruction has been got the better of, or the fistulous orifice opened and in a state of healing, these complaints have entirely gone off.

To cure this disease, it is necessary first to make the natural passage as free as possible, that no obstruction may arise from that quarter; and sometimes this alone is sufficient; for the urine, finding a free passage forwards, is not forced into the orifice, and the fistulæ heal up. The bougie may bring on an inflammation on the urethra at this part, and produce adhesions there; but if this effect is not produced early, the bougie will rather do harm if applied too often, and too long at a time, as will be more fully explained. But the dilatation of the stricture is not always sufficient; it is often necessary to perform an operation on the fistulæ, when they alone become the obstacle to the cure, which I shall now describe.

SECTION VII.

Of the Operation for Fistulæ in Perinæo.

When the before-mentioned treatment is not sufficient for the cure of the new passages, a method should be followed similar to that used in the cure of fistulæ in other parts, by laying them freely open to the bottom, and even making the orifice in the urethra a

fresh sore, if possible. This will be difficult in many situations of the internal orifice; and the mode of opening, and other circumstances attending the operation, will vary according to the situation.

That as little of the sound part of the inner surface of the urethra may be opened as possible, and that the diseased part may be fully exposed, it is necessary to be well directed to the inner orifice, for which we have commonly two guides, one is a staff introduced into the urethra as far as is thought necessary, or as far as it will go, (which will only be to the stricture, where the stricture still exists, or it may pass on to the bladder in cases where the stricture has been destroyed;) the other guide is a probe passed into the fistulous orifice. The probe should be first bent, that it may more readily follow the turns of the fistula, and introduced as far as possible; if it could be made to meet the staff, so much the better, as then the operator could cut just what is necessary. If the fistula is tolerably straight, so as to admit the passing a director, it is the best instrument for operating upon. If neither the probe nor the director can be made to pass on to the staff, we must open as far as they go, and begin searching anew after the remainder of the passage with the same instrument, and pursue it till the whole fistulous canal is laid open. If there are any sinuses, they are to be laid open, if possible; but it frequently happens that they cannot be followed by the knife, some running along the penis, where the scrotum is attached, others passing on towards the pubes, round the penis, while others are about the membranous part of the urethra. In such cases some degree of violence may be used, and I have several times introduced my finger into these sinuses, and have torn the parts so as to produce a considerable inflammation, by which means they often suppurate, granulate, and unite.

If the situation of the internal orifice is opposite to the scrotum, it will be difficult to get to it; but I imagine we may use great freedom with the external parts, whatever they are, for they are generally in a state of callosity. However, this requires judgment.

In cases where the disease is before the membranous part, and the stricture is not removed, a staff cannot be made to pass on to the inner orifice. In such the fistulous opening must be followed by the introduction of a probe or director into it, and by dilatation upon the instrument till the urethra beyond the stricture is found; and then a probe must be passed on towards the glans, to meet the end of the staff at the stricture; similar to what is done in the operation where a false passage has been made by the mismanagement of the bougie. The stricture must then be destroyed, and a bougie passed, as was recommended in that operation.

If either the ulceration, or the abscess, is formed in or near the prostate gland, then probably the stricture is near that part. In that case a staff must be passed as far as possible, and a probe or director

introduced into the external orifice, and the operation is to be directed accordingly. The difference of the operation in this case from the former will be, that we shall most probably be obliged to cut into the urethra on both sides of the stricture, therefore more of the canal must be exposed.

As this operation is the opening of all the fistulous canals, and also the destruction of the stricture, if there has been one, an instrument can afterwards, in every case, be passed into the bladder. It will most probably always be proper to introduce an instrument into the bladder, and keep it there almost constantly, so as to preserve the passage of the urethra in a regular form, while the openings made are healing; and probably the catheter will be by much the best instrument, because it is not necessary to be withdrawn whenever the necessity to make water comes on, which a bougie must; and its introduction again is often not practicable, for its end will be apt to get into the wounds.

In such cases as require a hollow cannula to be left in the bladder for the purpose of drawing off the water, whether a catheter or hollow bougie, it is absolutely necessary it should be fixed there, or else it will in common come out by the actions of the part. To effect this, it is necessary to fix that end of the instrument out of the penis to some part of the body that is the least moveable: what will answer extremely well is the common belt-part of the bag-truss, with only two thigh-straps fixed behind, and made to tie or buckle before; and two or three very small rings or short tapes fixed to those straps; where they pass between the thigh and scrotum, they should not be at a great distance from one another where they are fixed behind to the belt, for otherwise they are much altered in tightness by the motion of the thigh. If they have a flat spring in them, so much the better.*

The common bag-truss for the scrotum answers extremely well, first by fixing two or three rings on each side of it along the side of the scrotum, and with a piece of small tape the ring of the cannula can be fastened to any one of those rings that is most convenient for its situation.

Whatever instrument is used for the purpose of keeping the passage clear and open while the sores are healing, whether the sores are in consequence of this operation, or in consequence of the causes of the fistulæ, which I have described, there is a limited time in many cases for its continuance; for if continued beyond a certain period, it frequently acts contrary to what was intended: at first it often assists the cure, but towards the last it may obstruct the healing of the sores by acting at the bottom of the wound as an extraneous body. Therefore, whenever the sores become stationary, I

* Mr. Vanbutchell's springs would answer very well.

would advise the withdrawing of the instrument, and the introducing it only occasionally. The catheter will probably be still the best instrument for this purpose, as it will pass more readily, and draw off the water at the same time: however, I have often used a bougie, and by great care have passed it with success; and probably it will be proper to use it every now and then, even when all is healed, in order to determine whether or not the passage is free from disease.

The sore and the wound are to be at first dressed down to the bottom as much as possible, which will prevent the re-union of the parts just divided, and make the granulations shoot from the bottom so as to consolidate the whole by one bond of union.

When the urethra has suffered so much that abscesses have formed beyond the scrotum, the patient should ever after take great care to avoid a fresh gonorrhœa, for he seldom in that case escapes a return of the same complaints; and indeed, if he is not careful in many other respects, he is liable to returns of the same disease. If, notwithstanding this precaution, he should contract a gonorrhœa, every thing heating is to be carefully avoided, particularly irritating injections.

The following case shows that keeping extraneous bodies in the urethra prevents wounds made into that canal from healing.

A man, aged twenty-six, came into St. George's Hospital, March 2, 1783. He had laboured under a fistula in perinæo for near two years, arising from a stricture, attended with great pain and difficulty in making water. Four fistulous orifices were to be observed in the perinæum and scrotum. The smallest bougie could not be made to pass into the bladder after repeated trials. The caustic was then applied, but without success.

The operation for the fistula in perinæo was performed, September 19. A catheter was first introduced as far as it would go, as a director, and all the sinuses were laid open to that catheter, which exposed near an inch in length of that instrument; then the catheter was in part withdrawn to expose that part of the urethra which was laid bare. The blood being sponged off, the orifice in the stricture was next searched for, and when found it was dilated. The catheter was now pushed on to the bladder, although with some difficulty, and the end of it was then fastened to a roller which went round the thighs; and the wound was distended with lint. He took an anodyne draught after the operation, and another at night. September 20, he had some pain in the head from the opiates; his pulse was natural, and he had slept tolerably well. On the 21st day the catheter slipped out, and the second introduction of it gave considerable pain. The anodyne was repeated. October 1. The catheter was still to be felt by introducing a probe into the wound. From this time to the 25th, nothing material happened, excepting a piece of lint, of the first dressing, coming away through the urethra. November 20. The wound having for some time been stationary, and shewing no

disposition to heal, I conceived that the catheter was now acting as an extraneous body at the bottom of the wound, and therefore desired that it might be withdrawn, and passed occasionally; and no sooner was the wound free from it but it put on a healthy look; and by the 10th of December no urine came through the wound, but passed tolerably well through the urethra; and on the 12th, the wound was quite healed, and his water came from him rather in a full stream, and without pain, although we could never pass either catheter or bougie afterwards, probably from the new and old passages being irregular.

CHAP. VII.

Of some other Affections of the Urethra.

The substance of the urethra is muscular, and it is therefore capable of contracting its canal, similar to an intestine, so as to shut it up entirely. This makes it subject to diseases peculiar to muscle in general; which is indeed the only proof we have of its being muscular.

SECTION I.

Of the Spasmodic Affections of the Urethra.

In a sound state of parts these muscles are never excited to violent actions, acting simply as sphincter muscles; but when irritated, they are capable of acting violently, as is best seen in some cases upon the first use of injections, the urethra often refusing the injection entirely. This seems rather to be a salutary motion to hinder things from getting into the bladder; but there are often spasmodic contractions of these muscular fibres in different parts of the canal, shutting up the passage and obstructing the course of the urine, often not allowing a drop to pass. That this also is owing to spasm upon the muscular fibres is evident, because a large bougie will sometimes pass when it is at the worst. When the contraction is near the bladder, it is called a strangury, and is often produced in

a sound state of parts by irritating medicines, the power of which fall upon these parts, as cantharides; and when this part is in an irritable state, the spasm may be brought on by a vast number of things; such as most of the peppers, fermented liquors of all kinds, violent exercise, &c.

The urethra, in cases of spasmodic stricture, is more irritable than in the true stricture, which irritation indeed is in a great measure the cause of the spasm. Spasmodic strictures often bear so strong a resemblance to the cramp, that one would be apt to attribute them to the same cause as that which produces cramp. In such cases the spasm also goes off by tickling the part, similar to the removal of cramp.

In all cases of very irritable urethras, where spasms very readily take place, the patient should never long retain his urine when he has an inclination to void it; for I have seen cases where this alone has brought on the spasm; and indeed these parts, when in perfect health, will be thrown into a spasmodic affection, if the urine is too long confined in the bladder; while, at the same time, a certain fulness of the bladder, or a small degree of retention of the urine, will make the bladder contract with more force; and the urethra will, for the same reason, relax more freely; therefore, in cases where there is a tendency to strangury, there is seldom any harm in waiting a little after the inclination comes on.

I may be allowed here to caution surgeons who have not had opportunities of seeing many of these cases, when they meet with permanent strictures which are becoming troublesome, attended with frequency in making water, and a difficulty in passing it often threatening strangury, not to advise, or rather not to allow, their patients to take long journies, either on horseback or in carriages, more especially in the winter. I have known many patients labouring under such complaints taken ill in the middle of a journey, and obliged to stop for days upon the road, and who have continued in misery the remainder of the journey; and after having arrived at the place of their destination, have been laid up for months, and have suffered from most of the before-mentioned complaints.

SECTION II.

Of the Cure of the Spasmodic Affection of the Urethra.

It may not be improper to premise, that in diseases of the actions only of the urethra and bladder, whether spasmodic, and proceeding from too great irritability, or paralytic, (although two opposite diseases,) irritations on other parts have often wonderful effects, equally diminishing the action in the one, and increasing it in the other. The proof of this will appear when we shall treat of the irritable and paralytic urethra and bladder; for in either part, and in either case, we find blisters applied to the lower part of the small of the back, or the perinæum, as also many other applications to this part, often produce great effects.*

As spasm simply is not an alteration of structure, but is only a diseased or preternatural action arising from some irritation, it may be made to cease instantaneously. In whatever part of the urethra the spasm is, if time will allow, it is proper to try internal medicines, and also external applications, to remove it. The internal medicines that may be said to act immediately are, opiates and turpentines,† given either by the mouth or the anus; but they are more immediate in their effects in the form of clyster, especially the opium. Bark is often had recourse to in spasmodic affections, in which it is thought to be of service; but in such affections of the urethra, I think I have seen it frequently do harm.

The external applications are, the steam of warm water with spirits, the pediluvium, the warm bath, bladders of warm water applied to the perinæum, and similar applications. The crumb part of a new baked loaf, warm from the oven, applied to the perinæum, has been found to give ease.

I have known a blister, applied to the loins, in a great measure remove the spasm from the urethra; it is equally effectual when applied to the perinæum. But in most cases these methods are too tedious; therefore, when the case has been of some standing, before assistance has been called for, and requires immediate relief, recourse should be had to the catheter or bougie immediately.

* That the parts concerned in the expulsion of the urine (as the bladder and urethra) sympathize strongly with the skin of the perinæum, I believe is commonly supposed, from applications being often made to that part in cases of stoppages of urine.

A gentleman, who had no complaint in these parts, had a small fistula at the side of the rectum, for which he often had occasion to sit over the steam of warm water and vinegar; and this application to the perinæum never failed of making him void his urine.

† Dr. Home, in his experiments on this medicine, found that large doses brought on the strangury in women.

Strangury is the frequent effect of spirit of turpentine taken for some time.

If the contraction is near the bladder, the catheter will answer best; but in most cases the bougie will be sufficient, and is a much safer instrument; for in many hands the catheter is a very dangerous one, requiring a dexterity only to be acquired by a thorough knowledge of the course of the canal, and a habit of passing it. The bougie has likewise this advantage, that in many cases, where the part spasmodically affected will not allow it to pass, it may be allowed to lie close to the stricture; for it is not always necessary for the bougie to pass through the constrictured part; for a bougie, which has only passed a very little way in the urethra, has sometimes been effectual, if suffered to stay there till the desire of making water is perceived.

In such cases, even when the bougie passes into the bladder, it is necessary to let it stay in the passage till the inclination to make water comes on. If the water does not follow on the first attempt, it will be proper to make another; or if only part follows the bougie, it will be necessary to introduce it again. This circumstance of the water following the bougie with more certainty, if it is allowed to stay till the inclination comes on, is a proof that the disposition in the bladder to contracting removes in some degree the disposition to contraction in the urethra.

Some attention is necessary with respect to the passing of the bougie in these cases; for the urethra being more irritable than common, it often resists the bougie before it reaches the true spasmodic part. When this is the case, force is not to be used; but we should rather wait a little with patience, and then make another attempt to push it on. Dipping the end of the penis in very cold water often removes the spasm, and the water flows immediately and freely.

In most cases there is an uneasy sensation at the end of the penis, which leads the patient to rub those parts, and sometimes, though rarely, during the friction, the water will pass. Gently irritating injections, thrown in only a little way, often give ease. They may be supposed to act in a manner somewhat similar to a bougie that does not pass, and by irritating one part of the urethra to produce a relaxation in the other. They act in some cases as a preventative.

SECTION III.

Of the Paralysis of the Urethra.

In opposition to the foregoing disease, there is the want of power of contraction of the urethra; but this is not so frequent a case as the former. This disease is attended with symptoms contrary to those of the foregoing; the bladder is hardly allowed to be filled so as

to give the stimulus of repletion; but the water dribbles away insensibly as fast as secreted by the kidneys; or if the bladder is filled so as to receive the stimulus for expulsion, then it immediately takes place, and the water flows, if the person does not act with the musculi acceleratores; but sometimes in such cases the power of contraction of these muscles is lost, and then the water will flow, whether the person will or not, there being little or no power of retention. There is great difference in the degrees of violence of this disease.

SECTION IV.

Cure of the Paralysis of the Urethra.

It is to be cured by stimulants, as a blister to the loins; or a blister to the perinæum. It may be useful to immerse the feet in cold water. Tincture of cantharides, taken internally, fifteen or twenty drops once or twice a day, according to the effects, are of singular service in some cases.

A man came to St. George's Hospital with this complaint. I ordered him the before-mentioned medicine; and it had such an effect as to bring on the contrary disease, or a spasmodic affection of the urethra, so that he could not make water when he had the inclination: but an injection of opium removed this complaint, and he was then well. In this case, a few drops less probably would have effected a cure without any inconvenience.

There appears a great uncertainty in the effects produced by cantharides. In the case here described, in which we might have expected the parts to be particularly insensible to stimuli, we find a dose of fifteen or twenty drops of the tincture producing spasm. However, as soon as this immediate effect ceased, the remedy proved serviceable. Dr. Robertson of Edinburgh gives doses beyond comparison greater, and with safety. In a case in the New Finsbury Dispensary, of incapacity to retain the urine, ʒiss and ʒij of tincture of cantharides were given three times a day with much advantage. An attempt was made to give the remedy in substance, but we never could find a dose small enough, if it produced any effect whatever.

SECTION V.

Of Caruncles or Excrescences in the Urethra.

Strictures are not supposed to be the only causes of obstruction to the passage of urine in this canal; excrescences or caruncles are likewise mentioned by authors as happening frequently. From the familiarity with which they talk of them, and the few instances in which they really occur, one would suspect that this cause of obstruction was originally founded in opinion, and not observation, and afterwards handed down as matter of fact. If caruncles had been at first described from actual examination of cases, the language would have accorded with the appearances, and they would have been considered as seldom the causes of obstruction compared with strictures. However, they do sometimes happen, although but rarely. I have in all my examinations of dead bodies seen only two, and these were in very old strictures, where the urethra had suffered considerably. They were bodies rising from the surface of the urethra like granulations, or what would be called polypi in other parts of the body. It is possible they may be a species of internal wart; for I have seen warts extend some way into the beginning of the urethra, having very much the appearance of granulations. Most probably it will not be possible in the living body to distinguish caruncles, excrescences, or risings in the urethra, from a stricture; for I cannot conceive that they can produce any new symptoms, or peculiar feel to the examiner.

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May they not also be produced by violent inflammation, throwing out coagulating lymph, as has been observed when considering the process of inflammation?

SECTION VI.

Of the Cure of the Excrescence or Carunele.

I should very much suspect that this disease is not to be cured by the bougie; at least dilatation in such cases is not to be attempted as there is no contraction. If therefore the bougie is of any use, it must be in making the carnosity ulcerate from its pressure, which probably may be done by a large bougie pressing upon it with con-

siderable force. But if this should not have the desired effect, I should certainly recommend or use the caustic, if the parts are so situated as to admit of the application; and from such practice I should not doubt of a cure. But the difficulty lies in distinguishing the disease from the true stricture; for although authors talk of caruncles as common, and give us the method of treatment, yet they have not told us how we are to distinguish them from strictures.

I have never met with a caruncle in women.

CHAP. VIII.

Of the Swelled Prostate Gland.

Another disease of the parts surrounding the urethra, which is often very formidable, is a swelling of the prostate gland. This is of more serious consequence than any of the former causes of obstruction, because we have fewer methods of cure, for we cannot destroy it as we do the stricture, nor can Nature relieve herself by forming new passages; we have, however, often the means of temporary relief in our power, which is not the case in the stricture; for most commonly we can draw off the water by the catheter.

The swelling of the prostate gland is most common in the decline of life. The use of this gland is not sufficiently known to enable us to judge of the bad consequences that attend its diseased state, abstracted from swelling. Its situation is such, that the bad effects of its being swelled must be evident, as it may be said to make a part of the canal of the urethra, and therefore when so diseased as to alter its shape and size, it must obstruct the passage of the urine. When it swells it does not lessen the surface of the urethra at the part like a stricture; on the contrary, it rather increases it; but the sides of the canal are compressed together, producing an obstruction to the passage of the urine, which irritates the bladder, and brings on all the symptoms in that viscus that usually arise from a stricture or stone. From the situation of the gland, which is principally on the two sides of the canal, and but little, if at all, on the forepart, as also very little on the posterior side, it can only swell laterally, whereby it presses the two sides of the canal together, and at the same time stretches it from the anterior edge or side of the posterior, so that the canal, instead of being round, is flattened into a narrow groove. Sometimes the gland swells more on one side than the other, which makes an obliquity in the canal passing through it.

Besides this effect of the lateral parts swelling, a small portion of it, which lies behind the very beginning of the urethra, swells for-

wards like a point, as it were, into the bladder, acting like a valve to the mouth of the urethra, which can be seen even when the swelling is not considerable, by looking upon the mouth of the urethra from the cavity of the bladder in a dead body. It sometimes increases so much as to form a tumor,* projecting into the bladder some inches. This projection turns or bends the urethra forwards, becoming an obstruction to the passage of a catheter, bougie, or any such instrument; and it often raises the sound over a small stone in the bladder, so as to prevent its being felt. The catheter should, for this part, be more curved than is necessary for the other parts of the urethra. In such cases I have frequently passed first a hollow elastic catheter till it has reached this point, and afterwards a stilet or brass wire properly curved, so as to go over the prostate gland. The advantages of this method are, that, if the hollow catheter passes, no more is necessary; and, if it does not, the curved wire will pass along the hollow bougie much easier both to the surgeon and patient than it would have done if it had been introduced at first with the hollow bougie over it; for it would endeavour to adapt the urethra to the curve; whereas, when introduced afterwards, the stilet acts only on the inside of the hollow bougie, which the patient hardly feels.

A gentleman had been often sounded for a stone, and yet no stone could be found; but it afterwards appeared that there was a stone, which, together with the swelling of the prostate gland, had been the cause of his death.

John Doby, a poor pensioner in the Charter-house, had been several years afflicted with the stone in the bladder, and was relieved from all the symptoms by an enlargement of this part of the prostate gland, preventing the stones from falling down upon the neck of the bladder and irritating those parts. A twelvemonth after that the symptoms of the stone had gone off, he was attacked with a strangury, to relieve which many ineffectual attempts were made both with the bougie and catheter; but it soon proved fatal. Upon examination of the parts in the dead body, the prostate gland was found enlarged to a size six times greater than what it is in common, and the urethra, passing through it, was a slit about an inch and a half in length, the two sides of which were close together, the upper end towards the pubes and the lower towards the rectum. This slit was formed by the sides of the prostate gland only swelling, and the right side was the most enlarged, having its surface next the urethra rounded or convex, and the left side was exactly fitted to it, having its surface hollowed in the same proportion. The small projecting point of the gland was so much enlarged as to come forwards into the cavity of the bladder, and fill up entirely the passage at the neck of it. The bladder itself was very much enlarged and thickened in its coats, and contained above twenty stones, most of

* Vide Plates V. and VII.

them lying behind the projecting process of the prostate gland, and the rest lodged in small sacs, made by the internal membrane being pushed some little way between the fasciculi of muscular fibres.

The prostate gland, when swelled, generally becomes firmer in its consistence. The effects of these swellings are very considerable, for they squeeze the sides of the urethra close together, and the projecting point hinders in some degree the urine from entering the passage, and in many cases stops it entirely. Further, the increased firmness of the substance of the gland hinders it from yielding to the force of the urine, so that little or none can pass. It will be unnecessary to relate the particular symptoms which this disease occasions; they are such as arise from any stoppage of urine, producing an irritable bladder.

When a difficulty in making water takes place, a bougie is the instrument which the surgeon will naturally have recourse to; and if he finds the passage clear, which he often will, in such cases he may very probably suspect a stone. If search is made and no stone felt, he should naturally suspect the prostate gland, especially if the sound or instrument used meets with a full stop, or passes with some difficulty just at the neck of the bladder. He should examine the gland. This can only be done by introducing the finger into the anus, first oiling it well, placing the fore part of the finger towards the pubes; and if the parts, as far as the end of the finger can reach, are hard, making an eminence backwards into the rectum, so that the finger is obliged to be removed from side to side, to feel the whole extent of such a swelling, and it also appears to go beyond the reach of the finger, we may be certain the gland is considerably swelled, and is the principal cause of those symptoms.

I have known cases where the common catheter has been pushed through the projecting part of the gland into the bladder, and the water then drawn off; but in one patient the blood from the wound passed into the bladder, and increased the quantity of matter in it. The use of the catheter was attempted a second time, but, not succeeding, I was sent for. I passed the catheter till it came to the stop, and then suspecting that this part of the prostate projected forwards, I introduced my finger into the anus, and found that gland very much enlarged. By depressing the handle of the catheter, which of course raised the point, it passed over the projection; but unfortunately the blood had coagulated in the bladder, which filled up the holes in the catheter so that I was obliged to withdraw it, and clear it repeatedly. This I practised several days; but suspecting that the coagulum must in the end kill, I proposed cutting him as if for the stone; but he died before it could be conveniently done, and the dissection, after death, explained the case to be what I have now described.

In some of those cases where this part of the gland swells into the bladder in form of a tumor, the catheter has been known not to

bring off the water at times when it appeared to have passed; and, upon the death of the patient, when the parts have been examined, it was imagined that the catheter, in the living body, had made its way into the tumor, so as to have been buried in it at those times.*

From the knowledge of the above-mentioned facts, whenever I find the urine does not flow immediately upon introducing the catheter into the bladder, I have pushed it on, and depressed the handle so as to reach the fundus of the bladder with the end of the catheter, and have always succeeded. For the more ready introduction of the instrument, a catheter, made flexible at the point only for about an inch, is perhaps best, as it is more under the command of the hand than when wholly flexible.

If the bougie be used, it should be first warmed, and then very much bent at the point, and allowed to cool in this position, and passed quickly with the concave side upwards, before it loses the bend in its passage. But the bougie does not answer so well as the catheter, because, upon withdrawing the bougie, the sides of the gland soon close again. I have known where the water has passed by the side of the bougie with more freedom than when it was pulled out, because the bougie gave a straightness to this part of the canal, which it had not when the bougie was withdrawn. The following case is a strong instance of the inconveniences arising from such a disease of the prostate gland.

A gentleman was attacked with a suppression of urine; a catheter could not be passed, but a bougie relieved him. He continued well for five years; but the same complaint returning, the bougie could not be passed, and the disease was supposed to be a stricture. A catheter, however, passed, although with a good deal of difficulty; and the bougie, though often tried, could not be passed, excepting once, just after using the catheter. I was sent for, and tried the bougie with as little success, and was obliged to have recourse to the catheter. I passed it with great ease, and the water was drawn off. The late Mr. Tomkyns, who had Daran's bougie, was called; but he was not more successful, and was obliged to have recourse to the catheter; but such violence was used as caused a good deal of blood to come from the urethra, and after all it did not succeed. I was again consulted, and passed the catheter, but with much more difficulty than before, which made me believe that the passage had been a good deal torn. Upon taking out the catheter, I passed a large bougie into the bladder with great ease; this I allowed to remain for three days, and the patient made water tolerably freely by the side of it. The moment I drew out the bougie I attempted to pass another, but did not succeed, although I gave it the natural bend of the passage. Upon withdrawing those bougies that did not pass, I observed that all of them had a bend at the point, contrary to the direc-

* Vide Plate VII.

tion of the passage; this made me suspect, that the place which stopped the bougie was on the posterior surface, and that, by being pushed on, it bent forwards into the passage, and of course the point turned back. I therefore took a thick bougie; and, before I introduced it, I bent the point almost double, so that it could not catch at the posterior surface of the urethra, where I supposed the stop to be: this point of the bougie rubbed all along the anterior and upper surface of the urethra, by which means it avoided catching on the posterior surface, and it passed with great ease into the bladder. He made water by the side of the bougie as before. He had been for some time troubled with fits of an intermittent, which at first were very irregular, but became afterwards more regular. In one of the cold fits, the bougie, being in the urethra, gave him great pain, and obliged him at last to pull it out, on which he had immediate ease. The sensation was as if it stretched the passage too much, and it seemed to come out with difficulty. This looks as if there was a contraction of the urethra, as well as of the vessels of the skin, in the cold fit; so that this disposition runs deep. By giving the bougie this bend, he was able for the future to pass them with great ease. I may just observe, that, by introducing the finger into the anus, I found the prostate gland much enlarged.

Many patients, while labouring under any of the before-mentioned diseases of the urethra, and sometimes even after they have been cured of them, find great pain in throwing forwards the semen, having a sensation as if it scalded. This arises from the very irritable state which the muscles of this part are in, giving great pain by their own action.

SECTION I.

Of the Treatment of the Swelled Prostate Gland.

The methods practised in the above cases afforded only temporary relief; yet such must be had recourse to in order to prevent the consequences of retaining the urine too long. As a temporary relief from pain, as also to remove spasm, opiate clysters should be thrown up once or twice a day. A certain cure, I am afraid, is not as yet discovered.

I have seen hemlock of service in several cases. It was given upon a supposition of a scrofulous habit. On the same principle I have recommended sea-bathing, and have seen considerable advantages from it; and, in two cases, a cure of some standing.

In one case in which I was consulted the surgeon had found that burnt sponge had reduced the swelling of the gland very considerably.

This disease, like the stricture, produces complaints in the bladder; but in this the bladder is generally more irritable, perhaps from the cause being nearer to that viscus.

Diseases of the vesiculæ seminales are very familiarly talked of; but I never saw one. In cases of very considerable induration of the prostate gland and bladder, where the surrounding parts have become very much affected, I have seen these bags also involved in the general disease; but I never saw a case where it appeared that they were primarily affected.

In a case of a swelled prostate gland, with symptoms of an irritable bladder, in a young gentleman about twenty years of age, Mr. Earle tried a blister to the perinæum; but not finding the desired effect, and conceiving a greater irritation and discharge to be necessary, he passed a seton in the direction of the perinæum. The orifices were about two inches distant from each other. The symptoms of irritability in the bladder began to abate, and in time went entirely off. Upon examination of the prostate gland, from time to time, it was found to decrease gradually till it was nearly of the natural size. The seton was continued some months, and upon its being withdrawn the symptoms began to return. It was advised to introduce it again; which was accordingly done, but without the former good effects.

CHAP. IX.

Of the Diseases of the Bladder, particularly from the before-mentioned Obstructions to the Urine.

All the diseases of the urethra, as also the diseases of the prostate gland, I have now treated of, and shall next consider the effects of them upon the bladder, as also the diseases of that viscus, independent of affections of the urethra.

The disease of the bladder, arising from obstruction alone, is increased irritability, and its consequences, by which the bladder admits of little distention, becomes quick in its action, and thick and strong in its coats. But prior to the description of the effects of the diseases of the urethra on the bladder, it will be necessary, for the better understanding of the whole, to make some remarks upon those diseases of the two parts, in which we find that each affects the other; and these I shall consider without having any regard to the cause, but only to the general effects, when they are diseased. It may be observed, that every organ in an animal body is made up of different parts, the functions or actions of which are totally different

from each other, although all tend to produce one ultimate effect. In most, if not in all, when perfect, there is a succession of motions, one naturally arising out of the other, which in the end produces the ultimate effect; and an irregularity alone in these actions will constitute disease, at least produce very disagreeable effects, and often totally frustrate the final intentions of the organs.

I may be allowed also to premise, that the natural width of the urethra gives such a resistance to the force or power of the bladder in expelling the urine, as is easily overcome by the natural action of the bladder; but when the canal is lessened, either by stricture, spasm, swelled prostate gland, or any other means, this proportion is lost, by which means the bladder finds greater difficulty than natural, and is of course thrown into an increased action to overcome the resistance, which becomes a cause of the irritability and increased strength of this viscus in such diseases.

It is to be understood, that, in a sound state of these two parts, the bladder and urethra, the contraction of the one produces a relaxation of the other, and vice versa; so that their natural actions are alternate, and they may be considered as antagonist muscles to one another. Thus, when the stimulus of expulsion of the urine takes place in the bladder, which immediately produces contractions in it, the urethra relaxes, by which means the urine is expelled from the bladder, and allowed to pass through the urethra; and when the action ceases in the bladder, the urethra contracts again like a sphincter muscle,* for the purpose of retaining the urine which flows into the bladder from the kidneys till it gives the stimulus for expulsion again. But in many diseases of these two parts, this necessary alternate action is not regularly kept up, the one not obeying the summons of the other. This irregularity arises perhaps oftener from disease in the urethra, than in the bladder; for the action of the urethra depends upon the actions of the bladder; and if it is not disposed to obey the notices of the bladder, then there must be an irregularity as to time, which produces very troublesome symptoms.

We find, in many diseases of the urethra, such as strictures and spasms, as also in diseases of certain parts belonging to this canal, such as the prostate, and Cowper's glands, that there is a greater disposition in this canal for contraction than common, so that, when the bladder has begun to act, the water is not allowed to flow, the urethra not immediately relaxing; and the moment such a symptom takes place, every other power takes the alarm, and is brought in to assist the bladder, such as straining violently with the abdominal

* It may be remarked, that many sphincter muscles have two causes of action; one, which may be called involuntary, depending on the natural uses and actions of the parts; the other is voluntary, where a greater degree of action can be produced by the command of the will: and when a diseased action takes place, it is probably of this voluntary action, for it is an increased action over the natural, which the voluntary is.

muscles, and muscles of respiration, from all which there is violent pain in the parts immediately concerned, especially in the glans penis.

This disease has different degrees of violence. When slight, the distance in time between the contraction of the bladder and the relaxation of the urethra is but short, only giving a momentary pain and straining, before the urethra relaxes, and the water flows according to the dilatation of the urethra, which, in many of these cases, is but very small. In others the distance of time is very long, many straining for a considerable time before a drop will come; and what does come is often only in drops; and sometimes, before the whole urine can be expelled in this way, the spasm of the urethra comes on again, and there is a full stop, which gives excruciating pain for a while; but at last the bladder is as it were tired, and ceases to act. But as the urine in such cases is seldom all discharged, and often but a very little of it, the symptoms soon recur; and in this way, with a call to make water perhaps every hour out of the four and twenty, the patient drags on a miserable life.

The bladder, in all cases of obstruction, whether constant, as in the permanent stricture, or swelled prostate gland; or only temporary, as in the spasmodic stricture, is generally kept distended, but much more so in the permanent stricture; and when the irritation of fulness comes on, which is very frequent, the contraction of that viscus becomes violent, in proportion to the resistance: the sympathetic contraction of the muscles of the abdomen takes place, and is also violent, yet the water at such times shall only dribble, and be discharged in small quantity; and in the spasmodic stricture often not a drop shall pass, so that the bladder is never entirely empty; and what does pass is no more than sufficient to take off the irritation of fulness; by which means these actions become more frequent, and consequently there is almost always a constant oozing of urine from the penis between the times of making water. This, however, is not always the case; for the bladder is sometimes so irritable as not to cease acting till it has evacuated the whole water; and even then it is not at ease, but still strains, though there is nothing to throw out, the action of the bladder becoming a cause of its own continuance.

In all such affections of the bladder there is a sensation of pain and itching combined in the glans penis.

If the symptoms are more urgent than what can be accounted for upon the supposition of a stricture or disease of the prostate gland, a stone is to be suspected.

SECTION I.

Of the Treatment where the Actions of the Urethra and Bladder do not exactly alternate.

The cure, where the disease arises from spasm alone, consists in removing the disposition to over-action in the urethra, and the irritable disposition of the bladder when the urethra does not obey it. Perhaps opiate clysters, as a temporary means of relief, are the very best medicines that can be administered. I have known a blister to the loins, or to the perinæum, remove the spasm, in a great measure, from the urethra.

When the circumstance of the ultimate actions of these parts not being regular arises from the stricture, swelled prostate gland, or any mechanical obstruction to the urine, then that cause must be removed, as has been fully described in the treatment of these diseases.

SECTION II.

Of the Paralysis of the Bladder from Obstruction to the Passage of the Urine.

We may observe that the bladder is a part easily deprived of its power of contraction; for we find in many debilitating diseases and long illnesses from any cause, as fever, gout, and considerable local diseases which debilitate, that the bladder often becomes paralytic, and the water must be drawn off. We may also observe, when the bladder has been distended considerably, from whatever cause, so as to have its contractile power destroyed, that there is a considerable extravasation of blood from the inner surface of the bladder, so that the water which is evacuated is often extremely bloody. I have seen, in cases where the patient has died with this obstruction upon him, that the inner membrane of the bladder has been almost black, being loaded with extravasated blood; but this symptom of bloody urine goes off as the bladder acquires again its power of action.

In the diseases of the urethra, before described, when not properly, or in time, attended to, and in cases of stricture, where nature has not been able to relieve herself, the water must of course be retained in the bladder, which is perhaps always productive of another disease, that is, the loss of the power of contraction of that

viscus. Although this one effect, the retention of urine, arises from very different causes, as before related, yet immediate relief must be given in all of them, which can only be effected by the evacuation of the water. According to the nature of the obstruction, the mode of evacuation will be different, and will be of two kinds, one by the natural passage by means of an hollow tube, the other by an artificial opening made into the bladder.

If the causes of suppression are either spasmodic affections of the urethra, a swelled prostate gland, inflammation in the surrounding parts of the urethra, or tumors pressing upon it, as happens in pregnant women, immediate relief may be procured by means of a catheter, because under such circumstances a catheter will most probably pass, the sides of the canal being merely forced together by spasm, or external pressure.

A bougie, although it will also pass under such circumstances, will not answer so well, because a bougie must be withdrawn before the water can flow, which will allow the cause of the obstruction to exert against its full force; and if the spasm should not now exist, yet the bougie will not answer, unless there be a power of action in the bladder; for it is with difficulty that the urine can be made to pass through the urethra, by pressing the abdomen only.

When the catheter is passed, it will be necessary to make the patient strain with his abdominal muscles, as also with his muscles of respiration, to squeeze out the water, the bladder having no power of contraction; and even this will not be sufficient, for it will be necessary to press on the region of the pubes, with the hand, to make the water flow.

In cases where there is a considerable degree of debility in the bladder, or in those cases where there is a considerable strangury and of long standing, and where a small quantity of urine in the bladder gives a stimulus of fulness to that viscus, which is always attended with considerable urgency to make water; and where only very small quantities are evacuated, the bladder not being emptied at each time of making it, and when a catheter, either rigid or flexible, can with readiness be passed, the question is, what is the best way upon the whole to evacuate the water? There are three ways in which it can be done, one, by allowing the parts to do their own business as much as they can, and this at first sight might be supposed to be the very best; but it is in some cases the very worst; for the frequency of the inclination to make water, arising from the water not being wholly evacuated each time, the evacuation not readily taking place, increases the effort, and for a few minutes produces excruciating pain, keeping up a considerable and almost constant irritation in all those parts, which few can bear. Another method is, to draw off the water each time with a catheter, but this in many cases is next to impracticable; for supposing the operation to be performed only twice or three times in the day, we shall find that this is

oftener than what should be done. The third method is, to leave the catheter almost constantly in the bladder.

Which of these three methods is likely to give, on the whole, the least irritation must depend upon circumstances attending different cases. Where the frequency and the urgency is great, and the flowing of the water difficult, either the second or the third is to be pursued; and when the symptoms are such that a catheter must be passed very often, I believe it had better be left in, only taking it out occasionally. I think this is supported by observation and experience.

It sometimes happens, in cases of swelled prostate gland, that the catheter cannot be passed without the utmost difficulty; and when this has been the case, I have left it in the bladder, for fear of not being able to pass it again, and continued it there till the bladder has sufficiently recovered its tone, which is known by its being able to throw the urine through the catheter; after which that instrument may be withdrawn.

If the spasm, in such cases as arise from that cause, should still continue after the bladder has recovered its tone, we must continue the use of the catheter. But it often happens that the spasm leaves the urethra before the bladder recovers its power of contraction, the disease becoming then simply a paralysis of that viscus.

One of the first symptoms of the bladder beginning to regain its power of contraction is, the sensation of fulness, or an inclination to make water; and when that sensation comes on, the patient should be allowed to make water, but not to force it, for that circumstance alone will bring on the spasm, if the urethra is not very ready to dilate. I have seen, however, in some cases, that a slight sensation is not altogether to be depended upon, for it required a little retention more effectually to stimulate the bladder to action, and then the water has passed more freely.

The spasmodic contraction of the urethra does not appear to give up its action simply upon the stimulus or inclination to make water, and not till the bladder begins to have the power of contraction; for in cases where the bladder is paralytic, and yet sensible of the stimulus arising from being full, as it does not contract, the urethra does not relax, and the water cannot be made to pass.

It would appear, that, as the bladder recovers of the paralysis, it is not able to contain so much water as usual. Therefore the patients are obliged to make water often, and of course in small quantities.

SECTION III.

Of the Cure of the Paralysis of the Bladder, from Obstruction arising from Pressure or Spasm.

The removal of the causes of the paralysis of the bladder was fully described when we were treating of the diseases which produce that complaint, and the immediate relief, when the bladder is rendered inactive, has just now been considered; the paralysis itself is therefore the only remaining thing to be attended to. In this disease there are often contrary indications of cure, for a spasm is very different from a paralysis; and if the suppression is from spasm, and that still continues, then what may be good for the paralysis may be bad for the spasm. As in such cases the water can be drawn off, the bladder should be first attended to. Stimulants and strengtheners are useful; blisters to the loins to rouse the bladder to action, and blisters to the perinæum, to take off the spasm from the urethra, often succeed. Electricity is sometimes of singular service, when applied in such cases to the perinæum. Through the whole of the cure the urine must be drawn off frequently, because the bladder should not be allowed to be distended, which otherwise would be the consequence; and the sensation arising from the distention of that viscus is a very oppressive one.

A gentleman was at times attacked with a difficulty in making water, which he paid no attention to, as it had always gone off; but at last he was obliged to have recourse to the catheter, which afforded only a temporary relief. The spasm continued, and I was sent for. When I passed the catheter, I was obliged to press the lower part of the abdomen to squeeze out the water, for the bladder appeared to give but little assistance. I ordered a blister to the loins, which gave some power of contraction to the bladder, and took off some of the spasm in the urethra, but still he was very little relieved. I then directed a blister to be applied to the perinæum, which immediately removed his complaint.

CHAP. X.

Of a Suppression of Urine—and Operations for the Cure of it.

In cases of total suppression of urine, arising from strictures, or other causes where a catheter cannot be passed, and where every other method recommended is impracticable, an artificial opening must be made into the bladder for the evacuation of the water. There are three places where this opening may be made, and each has had its advocates. This operation has not been considered in all its circumstances in different patients, so as to direct the young surgeon in the variety of cases that may occur; for under some circumstances the operation is more advisable in one place than another; and indeed it may sometimes be next to impossible to perform it in a particular part.

The opening may be made first in the perinæum, where we now cut for a stone; secondly, above the pubes, where cutting for the stone was formerly practised; and thirdly, from within the rectum, where the bladder lies in contact with the gut.

The first question, which naturally occurs, is, which of those situations is the most proper for the safety of the patient, the evacuation of the water, and the conveniency of operating, when no particular circumstance forbids either of the situations?

On the first view of the subject, one would be apt to prefer that above the pubes, or from the rectum, as the bladder is nearer to either, and the parts more adapted to an operation than from the perinæum, where we must cut at random. These two situations, although the most proper in this respect, under certain circumstances, yet may become the most improper; for they are subject to greater changes than the perinæum.

The reasons that may render it very improper above the pubes are, the persons being very fat, or the bladders not distending sufficiently so as to rise above the pubes, which is common enough in diseases of those parts.

In very fat people it will be found that the substance to be cut through may be three or four inches, which will not only make the operation very unpleasant, but often improper; for such thickness of parts will make the swell of the bladder very obscure and uncertain; in many the bladder is so diseased as to allow of but little distention, and in such the symptoms of fulness come on very early, perhaps when there is only a few ounces of water collected. But if the retention has been for some considerable time, as twenty-four hours, then we may suppose that the bladder has allowed of distention to a much greater degree, which may in some cases be ascertained by introducing the finger into the rectum.

But where the bladder distends, and the parts are so thin that it can be plainly felt above the pubes, I see no material objection to this situation; and it has this advantage over the operation by the rectum, that a catheter can more easily be introduced, and kept in, which will be necessary to be done till the cause is removed.

It may be necessary here to mention some precautions respecting the keeping the instrument in the bladder; as also the best kind to be used. It must be an hollow tube; and should reach as far as the posterior surface of the bladder, for upon the contraction of that viscus its anterior part recedes backwards and downwards from the abdomen towards its fixed point, which may draw the bladder off from the tube. But as the distance between the skin of the abdomen and posterior surface of the bladder cannot be exactly ascertained, the cannula may be either too long, or too short; if too long, its end may press upon the posterior surface of the bladder, and produce ulceration there, and in time work its way into the rectum. To avoid this mischief, as also the inconveniences arising from its being too short, and the bladder slipping off from its end, I would recommend the tube to be made with a curve, and to lie with its convex side on the posterior part of the bladder, which being a large surface, and following nearly the same curve as the cannula, less mischief is to be expected. The openings into the cannula may be made on the concave side.

It would probably be both safer and easier for the patient to have the curved end of the catheter introduced into the urethra from the bladder. The passing of it into the urethra is very practicable; and we know that such a body lying in the urethra is not productive of any mischief. A common catheter, passed in this way, enters so far as to bring the handle almost flat to the belly, at most only a little bolster between the catheter and belly is necessary, and then with a piece of tape fixed to the handle of the catheter it might be fastened to the body; or a short catheter might be made with ears to fix the tape to.* In cases where the cannula has remained in the urethra for some time, the artificial passage will become in some degree permanent, so that it may be taken out occasionally, and cleaned from any stony matter that may be attached to it. To avoid this part of the operation, it has been recommended to have two cannulas, one within the other, that by drawing out the inner it may be cleaned, and again introduced; but in most cases it will also be necessary to withdraw the outer one, as its external surface will contract a crust.

* Where this operation is performed in consequence of a stricture, I have conceived that, by passing a catheter into the urethra from the bladder till it comes to the stricture, and then passing another straight cannula from the glans down the urethra, that the two may nearly meet, only having the stricture between them; and a piercer may be passed down and forced into the end of the one from the bladder, and afterwards either a bougie or hollow catheter introduced.

The second method, or puncture by the anus, will more commonly admit of being performed than that above the pubes; for it does not require that distention of bladder which the other does, therefore not so often impracticable from that cause; and perhaps the only obstacle here is a swelled prostate gland. In many of these cases of diseases of the urethra the prostate gland is very much swelled, which I can conceive may make the proper place for the puncture very uncertain; for the prostate gland, in such cases, will be pressed down towards the anus, before the bladder, and will be the first thing felt by the finger. Care must therefore be taken to distinguish the one from the other, which can only be done by getting the finger beyond the prostate gland, which may not be practicable; and if practicable, it may not be an easy matter to distinguish the one from the other, as a thickened and distended bladder may seem to be a continuation of the same tumor. However, if the objections given to the performing it above the pubes exist, I should prefer operating by the rectum; for although the probability of succeeding here may not be apparently greater than above the pubes, yet the chances are in its favour.

I must, however, observe here, that the objections which I have started, are only raised in my own mind from my knowledge of the diseases of those parts, and not from cases of suppression of urine under all the before-mentioned circumstances having occurred to me in practice.

A case of a total suppression of urine arising from stricture, where no instrument could be passed by the natural passage, and where a puncture was made into the bladder, from the rectum, with success, is related in the Philosophical Transactions, by Dr. Hamilton, of King's Lynn, in Norfolk.*

What led Dr. Hamilton to do it here was, a difficulty which was found in passing the clyster-pipe into the rectum, which induced him to introduce his finger into the anus, and he found the bladder so prominent in the rectum as to give the hint of performing the operation there.

The man was put into the same position as in the operation for the stone, and a trochar was introduced upon the finger into the anus, and thrust into the lower and most prominent part of the tumor, in the direction of the axis of the bladder, and upon withdrawing the piercer, the water flowed out through the cannula.

A straight catheter was then introduced through the cannula, lest the orifice in the bladder should be drawn off from the cannula.

Then the cannula was pulled out over the catheter, which was left in till the whole water was evacuated, and was then withdrawn.

The bladder, notwithstanding this perforation, retained the water as usual, till the inclination to make it came on; and when he per-

* Philosophical Transactions for the year 1776, vol. 66, page 578.

formed the action of making water, the orifice in the bladder seemed to open, and it rushed out by the anus. This continued about two days, when the water began to find its natural passage, and a bougie was introduced into the bladder through the urethra, which gave a free passage for the water, and of course less came by the anus; so that on the sixth day after the operation the whole came by the natural passage. The man continued the use of the bougie till the stricture was dilated. Dr. Hamilton further remarks, that in those cases of suppression of urine, in general, he has found that calomel and opium, in large doses, answer better than any thing he has tried. He is convinced, from repeated trials, that the specific efficacy is in the calomel, as large doses of opium alone have proved ineffectual; but he does not say that calomel alone will answer. He orders ten grains of calomel, with two of opium, to be repeated in six hours, if it has not answered in that time; and he says he has seldom been obliged to give a third dose.

This method of tapping the bladder was first suggested by Mons. Fleurant, surgeon to the Charité, at Lyons, in the year 1750. The operation was performed at that time, and an account of it was afterwards published by Mons. Pouteau, in 1760, with the history of three cases, in all which the operation was performed by Mons. Fleurant. The propriety of performing the operation in this part occurred to him in a manner similar to that before related of Dr. Hamilton; for, in introducing the finger into the rectum to examine the state of the bladder, in a case where he was going to puncture in the perinæum, he found the bladder so prominent there, and so much within the reach of his instrument, that he immediately altered his intention, and performed it in this part. He very readily drew off the water, and kept the cannula in with a T bandage, till the urine came the right way, and then withdrew it, and all terminated well. But there was a good deal of trouble, on account of the cannula being left in, on going to stool, as also from the constant dribbling of the water through it, all of which was prevented in Dr. Hamilton's case, by removing the cannula immediately upon the evacuation of the water. This was productive of another good effect, which was the retention of the urine till the stimulus of fulness was given, and then it passed through the artificial as it would through a natural passage. Should this be a constant effect in consequence of performing the operation here, I think it must be owned to be an unexpected circumstance which at first could not have been imagined.*

In another patient of Mons. Fleurant's, the cannula was kept in the anus and bladder thirty-nine days, without any inconveniency; so that the objection to this part of the operation cannot be material. Pouteau mentions one case where he performed this operation, in the

* A history, with a description of this operation, is published by Mr. Reid, surgeon, of Chelsea, in 1778.

year 1752, and the man died.* He says, I was called to visit a poor man suffering under a retention of urine, so obstinate and violent that it had already the symptoms of what is called a reflux of urine into the blood; and the complaint had continued more than three days. An empiric, to whose care he had been entrusted, after having very improperly given him the most powerful diuretics, had likewise the rashness to search him. It appears probable, that these attempts, which were made without success, must have increased the mischief. A catheter could not be passed into such parts by unskilful hands, without increasing the inflammation. I only made three slight efforts to effect a passage into the bladder by the urethra, which appeared to be much diseased, as well by the effusion of blood, as the extreme pain which these attempts produced. I determined at once to do as before, and plunged my trochar by the rectum into the bladder. The success was exactly the same; the bladder was entirely emptied, and I allowed the cannula to remain there a whole night and a day, during which time the urine flowed without intermission. Every thing went on without any accident which could be supposed connected with the operation; and death, which happened next day, was entirely independent of it.

One must suppose with Pouteau, that the death of the patient could not have arisen from this operation, but from the preceding diseases.

The bags called vesiculæ seminales, and the hæmorrhoidal vessels, have been mentioned as parts in danger of being wounded in the operation, and thereby proving troublesome; but if either of them are wounded, no inconvenience can arise. To avoid the vesiculæ seminales, it is recommended to perforate high up, and directly in the middle of the bladder, between the two sides; and this situation, is, at the same time, the one where the hæmorrhoidal vessels are the smallest, and therefore it is of less consequence if they are wounded.

It must appear from the following case, sent me by a gentleman, that a communication being kept up between the bladder and rectum is only inconvenient, and not so much so as might be expected.

" With respect to the sailor who passed his urine by the rectum, I have examined the few papers by me, but cannot find the particular remarks I made; however, as the case was singular, I recollect the man told me, that a few years before, (this was at Madras hospital, in December 1779,) he had the venereal disease very bad, and long; that the urine came by the anus, but this passage healed up, and it came by the penis, and continued to do so till he caught the disease again, when the urine found its way a second time by the anus, and

* Pouteau Melanges de Chirurgie, printed at Lyons, 1760, page 506, 507, and 508.

came that way for years. When he first came under my care, in the hospital at Bombay, February 1779, he felt no uneasiness or inconvenience from this manner of passing his urine; whenever he had an inclination to make water he sat down. I often made him lie upon his breast, with his legs drawn up, and the stream came through the anus with great force."

In other cases, in consequence of abscesses forming between the bladder and rectum, where they have not healed up, there has been a reciprocal passing of the contents of these cavities from the one to the other.

It only remains to speak of the puncture in the perinæum. An obstruction to the urine taking place in the natural passage prevents us from introducing an instrument in most of those cases, and deprives us of all the advantages we could receive from it as a guide in the operation; yet there may be cases of stricture, where, by cutting into the urethra, beyond the stricture, the water will flow; but this must be done without any guide or direction, and requires a nice and accurate knowledge of the parts; or if the obstruction arises from the valvular projection of the prostate gland, a staff may be passed as far as this projection, and cut upon as for the stone, the surgeon only making a small incision, using a small gorget, or, in the room of that, a trochar of a particular form might be run along it into the bladder; for although the staff does not enter the bladder, yet the distance to pass through without this guide is but small. If this cannot be done, a small and deep incision must be made in the perinæum, with an imposthume lancet, towards the bladder; the point of the trochar is to be introduced by this, the surgeon passing at the same time the fore-finger of the other hand into the anus, which will be a guide both for the direction of the instrument, as also to avoid its point passing into the rectum. With these precautions the error cannot be great.

I must own, however, that I have not seen cases enough to enable me to give all the varieties that commonly happen, and of course to give all the advantages and disadvantages of each method.

In the foregoing passages of this chapter, it is impossible not to admire the modesty, diligence, and caution of Mr. Hunter. Another thing is not less remarkable. It has been often said, not only that Mr. Hunter read nothing, but that he undervalued medical reading. That he read little cannot be wondered at, in one who worked so much: perhaps it may be said that he rarely, if ever, depended on the experiments recorded by others, when he wished to establish his own doctrines. The present, however, with many other passages in the "Treatise," shows that he thought it his duty to know what had been done by others before he offered his own sentiments; and we always find him doing ample justice to his predecessors. I mention

this, not only to vindicate Mr. Hunter from the charge of undervaluing the labours of others, but also to check a certain affectation, which at one time too generally prevailed, of the inutility of medical reading.

SECTION I.

Of allowing a Catheter to remain in the Urethra and Bladder.

In cases of debility of the bladder, and where a catheter passes with difficulty, or with great uncertainty, and in cases where it must be used frequently, and for a length of time, it will be necessary to keep an instrument in the urethra and bladder, so as to allow the water to pass through it freely. A common catheter, or one made of the elastic gum, is perhaps the best instrument; but it must be fixed in the canal; this will be best done by its outer end being tied to some external body, as I shall now describe. When the catheter is fairly in the bladder, the outer end is rather inclined downwards, nearly in a line with the body. To keep it in this position, we may take the common strap or belt-part of a bag-truss, with two thigh-straps either fixed to it or hooked to it, and coming round each thigh forwards by the side of the scrotum, to be fastened to the belt where the ears of the bag are usually fixed. A small ring or two may be fixed to each strap just where it passes the scrotum or root of the penis; and with a piece of small tape the ends of the catheter may be fixed to those rings, which will keep it in the bladder. A bit of rag, about four or five inches long, with a hole at the end of it, passed over the exterior end of the catheter, and the loose end allowed to hang in a basin, placed between the thighs, will catch the water which cannot disengage itself from the catheter, and keep the patient dry; or if another curved pipe is introduced into the catheter, it will answer the same purpose.

Under such treatment the bladder will never be allowed to be distended; and when the patient wants to have the bladder in some degree emptied, he has only to strain with his abdominal muscles, by which means he will be able to throw out a great deal at each time.

As the bladder begins to recover its actions, the patient will find that an inclination to make water will come on, and at those times he will also find that the water will come from him without straining with the abdominal muscles; when this takes place readily, the catheter may be taken out, and it will be found that he will be able in future to make water of himself. If it is necessary to keep in the catheter a considerable time, it will be the cause of a good deal of slime and mucus being formed in the urethra and bladder; but I be-

lieve this is of no consequence. I have known a catheter kept in this way for five months without any inconveniency whatever.

In all cases where it is necessary to keep an extraneous body for a considerable time in the bladder, whether in an artificial passage or the natural one, it will be proper a few days after its first introduction to withdraw it and examine whether it is incrusting, or filling up in its cavity with the calculous matter of the urine. If, after remaining in the bladder for some days, it has contracted none, we need be under no apprehensions of its doing it; but if, as frequently happens, it should have collected a considerable quantity, then it will be necessary to have it occasionally withdrawn and cleaned. The best method probably of doing this is to put it in vinegar, which will soon dissolve the stony matter.

SECTION II.

Of the increased Strength of the Bladder.

The bladder, in such cases as have been described, having more to do than common, is almost in a constant state of irritation and action; by which, according to a property in all muscles, it becomes stronger and stronger in its muscular coats; and I suspect, that this disposition to become stronger from repeated action, is greater in the involuntary muscles than the voluntary; and the reason why it should be so is, I think, very evident; for in the involuntary muscles the power should be, in all cases, capable of overcoming the resistance, as the power is always performing some natural and necessary action; for whenever a disease produces an uncommon resistance in the involuntary parts, if the power is not proportionally increased, the disease becomes very formidable; whereas, in the voluntary muscles, there is not that necessity, because the will can stop whenever the muscles cannot follow; and if the will is so diseased as not to stop, the power in voluntary muscles should not increase in proportion.

I have seen the muscular coats of the bladder near half an inch thick, and the fasciculi so strong as to form ridges on the inside of that cavity;* and I have also seen the fasciculi very thin, and even wanting in some parts of the bladder, so that a hernia of the internal

* This appearance was long supposed to have arisen from a disease of that viscus; but upon examination I found that the muscular parts were sound and distinct; that they were only increased in bulk in proportion to the power they had to exert; and that it was not a consequence of inflammation, for in that case parts are blended into one indistinct mass.

coat had taken place between the fasciculi, and formed pouches.* These pouches arise from the thin parts not being able to support the actions of the strong; as happens in ruptures at the navel, or rings of the abdomen.

SECTION III.

Of the Distention of the Ureters.

It sometimes happens that the irritation from the distention of the bladder, and the difficulty in throwing out its contents, is so great, that the urine is prevented from flowing freely into that viscus from the ureters, which become thereby preternaturally distended. The pelvis of the kidneys and infundibula are also enlarged; but how far this dilatation of the ureters and pelvis is really owing to a mechanical cause I am not so clear; or whether it is not a disposition for dilatation arising out of the stimulus given by the bladder. In some cases of long standing, where the bladder was become very thick, and had been for a long time acting with great violence, it had affected the mamillæ, so that the surface of these processes produced a matter, and perhaps even the secreting organs of the kidneys, so that the urine secreted was accompanied with a pus, arising from the irritation being kept up in all these parts.

The urine in the above cases is generally stale, even before it is thrown out of the bladder, which, when joined with the circumstance of the linen being constantly kept wet, by the almost continual discharge of urine, becomes very offensive, and it is hardly possible to keep the patient sweet.

SECTION IV.

Of Irritability in the Bladder independent of Obstructions to the Passage of the Urine.

Another disease of the bladder, connected with that present subject, is, where that viscus becomes extremely irritable, and will not

* This is perhaps the cause of the stone being often found in a pouch formed in the bladder; for the bladder, in cases of stone, is often very strong, which arises from the violent contraction of that viscus, caused by the irritation of the stone on the sides of it; and also from the stone being often opposed to the mouth of the urethra in the time of making water.

allow of its usual distention. The symptoms of this disease are very similar to those arising from obstructions to the passage of the urine in the urethra, but with this difference, that in the present disease the urine flows readily, because the urethra obeys the summons and relaxes; however, there is often considerable straining after the water is all voided, arising from the muscular coat of the bladder still continuing its contractions.

This irritability of the bladder often arises from local causes, as a stone, cancer, or tumors forming on the inside, all which produce irritability of this viscus. In such cases the straining is violent, for the cause still remains which continues to give the stimulus of something to be expelled, and the bladder continues to contract till tired, as in the cases of simple irritability; and then there is a respite for a time; but this respite is of short duration, for the urine is soon accumulated.

This disease will in the end be fatal by producing an hectic fever.

SECTION V.

Of the Cure of Simple Irritability of the Bladder.

When the symptoms arise from irritability alone, and not from a stone, or any local affection, the nature of the complaint may not at first be so obvious; temporary relief may, however, be procured by opium, which is most effectual in slight and recent cases; and if it be applied as near to the part as possible, its effects will be more evident; and therefore it may be given by clyster as well as by the mouth.

I should, however, be inclined to rely on a blister applied to the perinæum, or to the lower part of the small of the back, or upper part of the sacrum, if more convenient, than to any other method of cure.

In all cases where there is an irritation of the bladder the patient should never endeavour to retain his water beyond the inclination to make it. It hurts the bladder and increases its irritability; and indeed I am apt to think that this circumstance, even in sound parts, is often a predisposing cause of disease in this viscus and its appendage, the urethra; for I have known several cases where it has brought on the spasmodic stricture in the urethra, in sound parts; and it is frequently an immediate cause of strangury in those who have either a stricture, or a disposition to spasms in those parts.

A gentleman, in perfect health, from retaining his urine beyond

the inclination, in the playhouse, had all the symptoms of an irritable bladder brought on, which continued for several years, rendering him miserable.

SECTION VI.

Of a Paralysis of the Acceleratores Urinæ.

In many irritations of the bladder, the urethra not only relaxes directly on the stimulus to make water being felt in that viscus, as has been described; but a paralysis sometimes takes place in the voluntary muscles of those parts, so that the will cannot command them to contract to hinder the inconveniences that may attend an immediate evacuation of that fluid. If we attempt to stop the water, which is an act of the will, it is in vain; the acceleratores will not obey, and the water flows.

A blister applied to the perinæum will have considerable effects in removing this complaint.

CHAP. XI.

Of the Discharge of the Natural Mucus of the Glands of the Urethra.

The small glands of the urethra, and Cowper's glands, secrete a slimy mucus, similar to the white of an egg not coagulated. This seldom appears externally, or flows from the urethra, but during the indulgence of lascivious thoughts, and is seldom or never attended to, excepting by those who are under apprehensions either of a gonorrhœa coming on, or imagine the last infection is not gone off entirely, and are therefore kept in constant terror by this natural discharge. They often find it in such quantity as to leave spots on the shirt, but without colour; and often, after toying, the lips of the urethra are as it were glued together by it, from its drying there, which appearances alarm the mind of the patient without cause. Although this is only a natural discharge, and is secreted at such times, under the same influence which naturally produces it, it must be owned, that it is commonly much increased in those cases of debility arising from the mind, which is probably not easily to be accounted for. It

would seem that the contest between the mind and the body increases this secretion, for it cannot be considered as a disease of the parts.

The whole of this and the following chapter is peculiarly important, the diseases noticed in them are those which are the principal harvest of designing quacks, and the sources of the most dreadful uneasiness to many young men. Yet, to deprive them of both, it is only necessary that the true causes should be understood. There is nothing more serious in a greater discharge from these parts, than a weeping eye, or a too frequent discharge from the nose. Nor is it less true that the bare apprehension of such an event will increase such discharge in all those parts.

SECTION I.

Of the Discharge of the Secretions of the Prostate Gland and Vesiculæ Seminales.

This complaint is imagined to be the consequence of the venereal disease in the urethra; but how far this is really the case is not certain; though most probably it is not. It is a discharge of mucus by the urethra, which generally comes away with the last drops of urine, especially if the bladder is irritable; and still more at the time of being at stool, particularly if the patient be costive; for, under such circumstances, the straining or actions of the muscles of those parts are more violent. It has generally been supposed that this discharge is semen; and the disease is called a seminal weakness; but it appears, from many experiments and observations, that the discharge is undoubtedly not semen. It is only the mucus secreted either by the prostate gland, by those bags improperly called vesiculæ seminales, or both; and it may not be improper to give here the distinguishing marks between these two fluids. First, we may observe the discharge in question is not of the same colour with the semen, and is exactly of the colour of the mucus of the prostate gland, and of those bags. It has not the same smell, and indeed it hardly has any smell at all. The quantity, evacuated at one time, is often much more considerable than the evacuation of semen ever is; and it happens more frequently than it could possibly do, were the discharge semen. It is a disease that often attacks old men, where one can hardly suppose much semen to be secreted; and we find that those who are affected with this disease are no more deficient in the secretion and evacuation of the semen, in the natural way, than before

they had the disease. If the mind be at ease, this shall take place immediately after a discharge of semen, as well as before, which could not be the case, were it semen. Further, if those that labour under this complaint are not connected with women, they are as subject to nocturnal discharges from the imagination as persons who are perfectly sound; and indeed most patients, when made acquainted with these circumstances, become very sensible that it is not the semen.

It is not clear what the diseased state of the parts is upon which this discharge depends, whether there is a larger secretion of this mucus than natural, or whether it is entirely owing to a preternatural, uncommon action of those parts; and if this last, why these parts should be put into action when the bladder, rectum, and abdominal muscles, are thrown into action to expel their contents, is not easily explained. It is plain that the most violent actions of these parts are necessary to produce this evacuation; for it does not come with the first of the urine, nor, in general, with an easy stool.

As it was thought to be a seminal discharge, it was imagined to arise from a weakness in the organs of generation; and as frequent discharges of the semen in the natural way generally weaken, it was therefore imagined that this discharge must also weaken very considerably; and the imagination will operate so strongly as to make the patients believe they really are weakened. Whether the cause of such a discharge is capable of weakening, I will not pretend to say; but I believe that the discharge simply does not. Fear and anxiety of mind may really weaken the patient. In the cases I have seen of this kind, the mind has been more affected than the body.

From my own practice, I can hardly recommend any one medicine, or way of life, for removing this complaint. In one case I found considerable benefit from giving hemlock internally.

The idea that has been formed of the disease leads to the practice generally recommended, such as giving strengthening medicines of all kinds; but I never saw any good effects from any of them; and I should rather be inclined to take up the soothing plan to prevent all violent actions. Keeping the body gently open will in some degree moderate the discharge, and probably may effect a cure in the end.

In all these cases, the principal means of cure, as far as a cure can be expected, is to impress the patient with a proper sense of the disease; as far, I say, as they can be cured, because it often happens that such increased discharge depends on a peculiarity of constitution. But if the patient is perpetually examining the mouth of the urethra, or wiping his eye or his nose, such irritations applied to parts predisposed to over-secretion must increase such a habit. The sympathy with the mind is not less certain, though I pretend not to account

for the reason. The first means of cure is, therefore, if possible, to divert the mind from so frequently brooding over these inconveniences. But, besides this, it is often necessary also to administer local or internal remedies, in order to increase the patient's confidence in his amendment, and to prevent his application to dangerous and unfeeling impostors.

CHAP. XII.

Of Impotence.

This complaint is by many laid to the charge of Onanism at an early age; but how far this is just, it will in many cases be difficult to determine; for, upon a strict review of this subject, it appears to me to be by far too rare to originate from a practice so general.

How far the attributing to this practice such a consequence is of public utility, I am doubtful, particularly as it is followed most commonly at an age when consequences are not sufficiently attended to, even in things less gratifying to the senses; but this I can say with certainty, that many of those, who are affected with the complaints in question, are miserable from this idea; and it is some consolation for them to know that it is possible it may arise from other causes. I am clear in my own mind, that the books on this subject have done more harm than good.

In the cases of this kind that have come under my care, although the persons themselves have been very ready to suppose that the disease has arisen from the cause here alluded to; yet they did not appear to have given more into the practice than common; and in particular, the worst case I have ever seen was where but very little of this practice had ever been used, much less than in common among boys.

Nothing hurts the mind of a man so much as the idea of inability to perform well the duty of the sex. If his scrotum hangs low it makes him miserable; he conceives immediately that he is to be rendered incapable of performing those acts in which he prides himself most. It is certain, the relaxation, or contraction of the scrotum, is in some degree a kind of sign of the constitution; but it is of the constitution at large, not of those parts in particular. Nurses are so sensible of the contraction of that part being a sign of health in the children under their care, that they take notice of it. The relaxation of it in them cannot be supposed to arise from inability to perform those acts at one time more than another. The face is one of the signs of the constitution, and has as much to do with those peculiar

acts as the scrotum. However, we must allow that this part is much more lax than what we should conceive was intended by Nature, even in young men who are well in health; but as this is very general, I rather suspect that it arises from the circumstances of the part being kept too warm, and always suspended, the muscles hardly ever being allowed to act, so that they have less force. How far it is the same in those countries where the dress does not immediately suspend those parts, I have not been able to ascertain. Warmth appears to be one cause; for we find that cold has generally an immediate effect; but this is perhaps owing to its not being accustomed to cold, which, if it were, it might possibly become as regardless of as it is of warmth. What the difference is in this part, in a cold and warm climate, all other circumstances the same, I do not know; but whatever may be the cause, if it is really in common more lax than intended by Nature, it is of no consequence as to the powers of generation. The testicles will secrete whether kept high or low.

SECTION I.

Of Impotence depending on the Mind.

As the parts of generation are not necessary for the existence or support of the individual, but have a reference to something else in which the mind has a principal concern, a complete action in those parts cannot take place without a perfect harmony of body, and of mind; that is, there must be both a power of body, and disposition of mind; for the mind is subject to a thousand caprices, which affect the actions of these parts.

Copulation is an act of the body, the spring of which is in the mind; but it is not volition; and according to the state of the mind so is the act performed. To perform this act well, the body should be in health, and the mind should be perfectly confident of the powers of the body; the mind should be in a state entirely disengaged from every thing else; it should have no difficulties, no fears, no apprehensions; not even an anxiety to perform the act well; for even this anxiety is a state of mind different from what should prevail; there should not be even a fear that the mind itself may find a difficulty at the time the act should be performed. Perhaps no function of the machine depends so much upon the state of the mind as this.

The will, and reasoning faculty, have nothing to do with this power; they are only employed in the act, so far as voluntary parts are made use of; and if they ever interfere, which they sometimes do, it often produces another state of mind, which destroys that which is proper for the performance of the act; it produces a desire, a wish,

a hope, which are all only diffidence and uncertainty, and create in the mind the idea of a possibility of the want of success, which destroys the proper state of mind, or necessary confidence.

There is perhaps no act in which a man feels himself more interested, or is more anxious to perform well, his pride being engaged in some degree, which, if within certain bounds, would produce a degree of perfection in an act depending upon the will, or an act in voluntary parts; but when it produces a state of mind contrary to that state, on which the perfection of the act depends, a failure must be the consequence.

The body is not only rendered incapable of performing this act, by the mind being under the above influence, but also by the mind being perfectly confident of its power, but conscious of an impropriety in performing it: this, in many cases, produces a state of mind which shall take away all power. A conscientious man has been known to lose his powers on finding the woman he was going to be connected with, unexpectedly, a virgin.

Shedding tears arises entirely from the state of the mind, although not so much a compound action as the act in question; for none are so weak in body that they cannot shed tears; it is not so much a compound action of the mind and strength of body, joined, as the other act is; yet if we are afraid of shedding tears, or are desirous of doing it, and that anxiety is kept up through the whole of an affecting scene, we certainly shall not shed tears, or at least not so freely as would have happened from our natural feelings.

From this account of the necessity of having the mind independent, respecting the act, we must see that it may very often happen that the state of mind will be such as not to allow the animal to exert its natural powers; and every failure increases the evil. We must also see, from this state of the case, that this act must be often interrupted; and the true cause of this interruption not being known, it will be laid to the charge of the body, or want of powers. As these cases do not arise from real inability, they are to be carefully distinguished from such as do; and perhaps the only way to distinguish them is, to examine into the state of mind respecting this act. So trifling often is the circumstance which shall produce this inability, depending on the mind, that the very desire to please shall have that effect, as in making the woman the sole object to be gratified.

Cases of this kind we see every day; one of which I shall relate as an illustration of this subject, and also of the method of cure.

A gentleman told me that he had lost his virility. After above an hour's investigation of the case, I made out the following facts: that he had, at unnecessary times, strong erections, which showed that he had naturally this power; that the erections were accompanied with desire, which are all the natural powers wanted; but that there was still a defect somewhere, which I supposed to be from the mind; I inquired, if all women were alike to him, his answer was, no; some women he

could have connection with as well as ever. This brought the defect, whatever it was, into a smaller compass; and it appeared there was but one woman that produced this inability; and that it arose from a desire to perform the act with this woman well; which desire produced in the mind a doubt or fear of the want of success, which was the cause of the inability of performing the act. As this arose entirely from the state of the mind, produced by a particular circumstance, the mind was to be applied to for the cure; and I told him that he might be cured, if he could perfectly rely on his own power of self-denial. When I explained what I meant, he told me that he could depend upon every act of his will, or resolution; I then told him, if he had a perfect confidence in himself in that respect, that he was to go to bed to this woman, but first promise to himself, that he would not have any connection with her for six nights, let his inclinations and powers be what they would; which he engaged to do; and also to let me know the result. About a fortnight after he told me that this resolution had produced such a total alteration in the state of his mind, that the power soon took place; for instead of going to bed with the fear of inability, he went with fears that he should be possessed with too much desire, too much power, so as to become uneasy to him, which really happened; for he would have been happy to have shortened the time, and when he had once broke the spell, the mind and powers went on together; and his mind never returned to its former state.

SECTION II.

Of Impotence from a want of proper Correspondence between the Actions of the different Organs.

I LATELY observed, when treating of the diseases of the urethra and bladder, that every organ in an animal body without exception, was made up of different parts, whose functions, or actions, were totally different from each other, although all tending to produce one ultimate effect. In all such organs, when perfect, there is a succession of motions, one naturally arising out of the other, which in the end produces the ultimate effect; and an irregularity alone, in these actions, will constitute disease, at least will produce very disagreeable effects, and often totally frustrate the final intention of the organ. I come now to apply this principle to the actions of the testicle and the penis; for we find that an irregularity in the actions of these parts sometimes happens in men, producing impotence: and something similar, probably, may be one cause of barrenness in women.

In men, the parts subservient to generation may be divided into two, the essential, and the accessory. The testicles are the essential; the penis, &c. the accessory. As this division arises from their uses or actions in health, which exactly correspond with one another, a want of exactness in the correspondence, or susceptibility of those actions, may also be divided into two: where the actions are reversed, the accessory taking place without the first or essential, as in erections of the penis, where neither the mind, nor the testicles, are stimulated to action; and the second is where the testicle performs the action of secretion too readily for the penis, which has not a corresponding erection. The first is called priapism, and the second is what ought to be called seminal weakness.

The mind has considerable effect on the correspondence of the actions of these two parts; but it would appear, in many instances, that erections of the penis depend more on the state of the mind than what the secretion of the semen does; for many have the secretion, but not the erection; but in such, the want of erection appears to be owing to the mind only.

Priapism often arises spontaneously, and often from visible irritation of the penis, such as the venereal gonorrhœa, especially when violent. The sensation of such erections is rather uneasy than pleasant, nor is the sensation of the glans at the time similar to that arising from the erections of desire, but more like to the sensation of the parts immediately after coition. Such as arise spontaneously are of more serious consequence than those from inflammation, as they proceed, probably, from causes not curable in themselves, or by any known methods.

The priapism arising from inflammation of the parts, as in a gonorrhœa, is attended with nearly the same symptoms; but generally the sensation is that of pain, proceeding from the inflammation of the parts. It may be observed, that what is said of priapism is only applicable to it when a disease in itself, and not as a symptom of other diseases, which is frequently the case.

The common practice in the cure of this complaint is to order all the nervous and strengthening medicines, such as bark, valerian, musk, camphor, and also the cold bath. I have seen good effects from the cold bath; but sometimes it does not agree with the constitution, in which cases I have found the warm bath of service. Opium appears to be a specific in many cases; from which circumstance I should be apt, upon the whole, to try a soothing plan.

Seminal weakness, or a secretion and emission of the semen without erections, is the reverse of a priapism, and is by much the worst disease of the two. There is great variety in the degrees of this disease, there being all the gradations from the exact correspondence of the actions of all the parts to the testicles acting alone; in every case of the disease, there is too quick a secretion and evacuation of the semen. Like to the priapism, it does not arise from desires and

abilities, although when mild it is attended with both, but not in a due proportion; a very slight desire often producing the full effect. The secretion of the semen shall be so quick, that simple thought, or even toying, shall make it flow.

Dreams have produced this evacuation repeatedly in the same night; and even when the dreams have been so slight, that there has been no consciousness of them when the sleep has been broken by the act of emission. I have known cases, where the testicles have been so ready to secrete, that the least friction on the glans has produced an emission: I have known the simple action of walking, or riding, produce this effect, and that repeatedly, in a very short space of time.

A young man, about four or five and twenty years of age, not so much given to venery as most young men, had these last-mentioned complaints upon him. Three or four times in the night he would emit; and if he walked fast, or rode on horseback, the same thing would happen. He could scarcely have connection with a woman before he emitted, and in the emission there was hardly any spasm. He tried every supposed strengthening medicine, as also the cold bath, and sea-bathing, but with no effect. By taking twenty drops of laudanum, on going to bed, he prevented the night emissions; and by taking the same quantity in the morning, he could walk or ride, without the before-mentioned inconvenience. I directed this practice to be continued for some time, although the disease did not return, that the parts might be accustomed to this healthy state of action; and I have reason to believe the gentleman is now well. It was found necessary, as the constitution became more habituated to the opiate, to increase the dose of it.

The spasms, upon the evacuation of the semen, in such cases, are extremely slight, and a repetition of them soon takes place; the first emission not preventing a second; the constitution being all the time but little affected.* When the testicles act alone, without the accessory parts taking up the necessary and natural consequent action, it is still a more melancholy disease; for the secretion arises from no visible or sensible cause, and does not give any visible or sensible effect, but runs off similar to involuntary stools, or urine. It has been observed, that the semen is more fluid than natural in some of these cases.

There is great variety in the diseased actions of these parts, of which the following case may be considered as an example.

A gentleman has had a stricture in the urethra for many years, for

* It is to be considered, that the constitution is commonly affected by the spasms only, and in proportion to their violence, independent of the secretion and evacuation of the semen. But in some cases even the erection going off without the spasms on the emission, shall produce the same debility as if they had taken place.

which he has frequently used a bougie, but of late has neglected it. He has had no connexion with women for a considerable time, being afraid of the consequences. He has often in his sleep involuntary emissions, which generally awake him at the paroxysm; but what surprizes him most is, that often he has such, without any semen passing forwards through the penis, which makes him think that at those times it goes backwards into the bladder. This is not always the case, for at other times the semen passes forwards. At the time the semen seems to pass into the bladder, he has the erection, the dream, and is awaked with the same mode of action, the same sensation, and the same pleasure, as when it passes through the urethra, whether dreaming or waking. My opinion is, that the same irritation takes place in the bulb of the urethra, without the semen, that takes place there when the semen enters, in consequence of all the natural preparatory steps, whereby the very same actions are excited as if it came into the passage; from which one would suppose, that either semen is not secreted, or if it be, that a retrograde motion takes place in the actions of the acceleratores urinæ; but if the first be the case, then we may suppose that in the natural state the actions of those muscles do not arise simply from the stimulus of the semen in the part; but from their action being a termination of a preceding one, making part of a series of actions. Thus they may depend upon the friction, or the imagination of a friction on the penis, the testicles not doing their part, and the spasm in such cases arising from the friction and not from the secretion.

In many of those cases of irregularity, when the erection is not strong, it shall go off without the emission; and at other times an emission shall happen almost without an erection; but these arise not from debility, but affections of the mind.

In many of the preceding cases, washing the penis, scrotum, and perinæum with cold water, is often of service; and to render it colder than we find it in some seasons of the year, common salt may be added to it, and the parts washed when the salt is almost dissolved.

There is not a passage in any medical writer that marks more strongly than this chapter the proper connexion between physics and metaphysics; that is to say, that after establishing certain natural laws, or tracing a certain train of events, which, in the progress of nature, follow each other, instructs us so well how far we may venture to suggest the causes which may interfere with that train, so as to prevent the ultimate effect. If Mr. Hunter has not, on this occasion, produced every inference which the subject admits, and perhaps requires, it is probably because those which he omitted were so obvious to himself, as seemingly not to require being pointed out to others.

It has been thought by some, that too little notice is here taken of

an indelicate custom. The reason of this is obvious from what follows concerning impotence arising from the mind. If, as is no uncommon event, an eager bridegroom should be disappointed in the fulfilment of expectations, which have long occupied his whole wishes, his embarrassment will produce a sort of temporary inability, which, in his despondency, he may impute to the recollection of events, the more distressing as they cannot now be recalled. Under these circumstances he applies to his medical friend, if he has one, in whom he has sufficient confidence. The duty of the latter should be, as much as possible, to relieve his patient from an impression so fatal to his future success. In the way of conversation, he will soon learn, that the whole cause of failure must be ascribed to some impression of the mind. The most common cause is *emissio ante coitum*. Unconscious that this event has arisen only from the force of desire, or perhaps unconscious that it has happened at all, he at once deems himself incompetent.

I recollect an instance of the most profligate character I ever knew, who felt so respectful an attention to his bride, as absolutely unfitted him, for a time, for the purposes of their congress; she had previously conducted herself with a reserve he had been unaccustomed to among his former associates. This conduct had produced sentiments of *distant* respect, ill suited to the occasion, and which the lady would gladly have excused. This man had been too constantly in the habit of exerting his powers to doubt them, so that the impression soon subsided; but in one of a different character the consequence might have been more permanent, as the mind might with difficulty recover from its illusion.

In this view it is, with much justice, that Mr. Hunter remarks the injury which books on this subject have done. Were they perused at the age when the practice is too common, perhaps they might be useful, by a bare apprehension of a calamity, of all others the most alarming. But in after life they can only produce despondency, which, of all other things, is the most likely to perpetuate such a supposed calamity.

In his first edition, Mr. Hunter had made some further observations, the evident intention of which was to relieve the mind of certain individuals from apprehensions which, whilst they exist, must be attended with the consequences above mentioned. The unfeeling ribaldry of some writers probably induced him to omit, in the present edition, a train of reasoning, to which there might be some objection. Not feeling myself at liberty to make any alteration in the text as it now is, I shall only remark, that one inference may be fairly drawn from Mr. Hunter's general mode of reasoning, in every subject connected with the animal economy.

The organs of which we are now speaking, have, like all others, their proper stimuli to bring them into action; and, in proportion as they obey these stimuli, their actions may be called natural or healthy.

But, if they are often stimulated unnaturally, such a mode of stimulating may become habitual, and even necessary to excite them into action; and if that action, even under the most favourable circumstances, is found rarely to take place, whilst the mind is occupied with a gloomy impression, the consciousness of this imperfection will prove a means of its perpetuation. This view of the disease at once suggests the remedy, viz. a dereliction of the unnatural stimulus, by which the parts will gradually feel the impression of their proper stimuli—and as these stimuli produce their first impression on the mind, it is absolutely necessary that it should be free from every gloomy impression, particularly from such as might be excited by the very object which should prove the stimulus to the natural or healthy action.

It is probable that, having been frequently consulted on cases in which he found it necessary first to relieve the mind of his patient, Mr. Hunter was induced, from motives of the purest benevolence, to dwell so long on this subject.

CHAP. XIII.

Of the Decay of the Testicle.

It would appear, from some circumstances, that the parts of generation are not to be considered as necessary parts of the animal machine, but only as parts superadded for particular purposes; and therefore only necessary when those particular purposes are to be answered; for we may observe, that they are later of coming to maturity than any other parts, and are more liable to decay. Thus far in their natural properties they are different from most other parts of our body, the teeth only excepted, which are similar in some of those circumstances.

The testicles appear to be more subject to spontaneous disease than any other part of the body; but what is the most singular thing of all is, the wasting of those bodies. One or both testicles shall wholly disappear, like to the thymus gland, or membrana pupillaris, &c. in the infant. This we do not find in any parts of the body which are essential to its economy; excepting the parts are of no further use, and might become hurtful in the body, as in the instance of the membrana pupillaris; but the testicles do not undergo this change, as if in consequence of an original property stamped upon them, as is the case of the thymus gland, whenever the age of the person is such as to render them useless; but are liable to it at any age, and therefore the

disposition is in the testicles themselves, independent of any connexion with the animal economy. An arm or leg may lose its action, and waste in part, but never wholly.

Testicles have been known to waste in cases of rupture, probably from the constant pressure of the intestine. Mr. Pott has given us cases of this kind. I have seen in the hydrocele the testicle almost wasted to nothing, probably from the compression of the water; but in all these the causes of wasting are obvious, and would probably produce similar effects in other parts of the body under the same circumstances; but a testicle without any previous disease wastes wholly, or at other times it inflames, either spontaneously, or from sympathy with the urethra, becomes large, and then begins to subside, as in the resolution of common inflammation of the body, but does not stop at the former size, but continues to decay till it wholly disappears. The following cases are instances of this:—

Case I. A gentleman, about nine years ago, had a gonorrhœa, with a bubo, which suppurated. A swelling of one of the testicles came on, for which he used the common methods of producing resolution, and seemingly with success. All the other symptoms being removed, he thought himself quite well; but some time after he found that the testicle, which had been swelled, was become rather smaller than the other, which made him now pay attention to it: this decrease continued, till it wasted entirely. For some years past, there has been no appearance of a testicle. He is not in the least different in inclination, or powers, from what he was before.

Case. II. communicated by Mr. Nanfan. "A gentleman, aged about eighteen, who never had any venereal complaint, has had two different attacks of the same nature, one in each testicle. February 3, 1776, after skating a few hours, without having, to his knowledge, received any injury from it, he was seized with a violent pain and inflammation of the left testicle, which, in a few days, increased much in size. A surgeon being sent for, followed the usual treatment in such cases of inflammation. In about six weeks the inflammation and swelling gradually subsided, some hardness only remaining. A mercurial plaster was now applied, which, after being worn for some time, was left off. The testicle ever since has continued gradually to decrease, and is no larger than a horse-bean; indeed the body of the testicle is quite decayed, nothing remaining but what seems part of the epididymis. It appears to have no sense of pain, except when pressed, and is very hard and uneven on its surface. The spermatic chord is not in the least affected. October 20, 1777, he was seized in the same manner in the right testicle, without any apparent cause; whereupon I was applied to. He was immediately bled; took an opening mixture; after that a saline mixture, with tartar emetic, and a fomentation and embrocation of spiritus mindereri, and spiritus vini, was used. On the 27th, a cataplasm was applied of linseed meal, and aqua-vegito-mineralis. This treatment

was persisted in till about the middle of November. The inflammation went off, and the testicle seemed much in the natural state. On Dec. 19, I was applied to again; it seemed to be growing hard, and decreasing in size, much in the same manner as the other had done, which made him very unhappy. I ordered him some pills, with calomel and tartar emetic, in hopes of increasing the secretion of the glands in general, and making some change in the testicle. At first this method seemed to be of service, but soon lost its effects, and the testicle began to decrease just as the other did." Mr. Adair and Mr. Pott were consulted with me; but nothing could be thought of that could give any hopes of success. I advised him to employ the parts in their natural uses, as much as inclination led him; but all was to no purpose: the testicle continued to decrease, till not a vestige was left.

Case III. communicated by Dr. Cotham, of Worcester. "A young man, aged sixteen, was suddenly seized with great coldness and shivering, attended with frequent rigors. During this paroxysm, which continued three hours, his pulse was small and contracted, and so exceedingly quick, that the strokes of the artery were with difficulty counted. This period was succeeded by an intense heat, and a strong, hard, full pulse, on which account he was copiously bled; a dose of cooling physic was immediately administered, and a clyster thrown up to promote its more speedy effects. In the evening the bleeding was repeated. All this day he complained of excruciating pain in his loins, and the side of his belly descending down into the scrotum. On examining the part affected, I saw an appearance of inflammation in the groin of the left side, and a great tension about the ring of the abdominal muscles, with an enlargement of the testicles. These parts were now ordered to be fomented with a discutient fotus strongly impregnated with crude sal ammoniac, and to be bathed with spiritus mindereri, and spiritus volat. aromat. before the application of each stupe; and he was directed to take six grains of the pulv. antimonialis, with fifteen grains of nitre, every three hours; his food to be thin gruel, with fruit and lemon-juice, and his drink barley-water, with sugar and nitre. Notwithstanding this antiphlogistic plan of frequent cooling physic, anodynes, three emetics, and thirteen blood-lettings, the fever continued, and the pain, inflammation, and tumor, increased till the eighth day, including the first day of seizure; when, seeing no hope of discussing the tumor, the testicle being nearly as large as a child's head, I attempted by emollient fotuses, and maturating cataplasms, to bring it to suppuration. On the 10th, a fluctuation was perceptible; and on the 12th, much more so, the scrotum then having put on a livid appearance. I used every possible argument for permission to open it, but he being now quite easy would not admit it. On the 15th, the patient was again attacked with rigors, coldness, and shivering, succeeded by a great feverish heat, which soon terminated in a profuse sweat, yet no pain

attended this paroxysm. In the evening, however, the tumor was so prominent, that I was of opinion it would open spontaneously before morning, when I hoped to obtain his consent to enlarge the aperture; but this not happening, and all intreaties, relating to the necessity of an incision, proving ineffectual, I contented myself with giving the bark with elixir of vitriol. From this time, after every paroxysm of fever, the testicle was observed to decrease. Not being permitted to make an incision, and his strength and appetite continuing good, I began to entertain hopes of success without it, and advised him to persist in the use of the tonic and antiseptic plan, with the addition of stupes, wet with the decoction of bark, to be constantly applied; by which means, at the end of thirty days from the first seizure, the pus was totally absorbed. The testicle then appeared to be of the size of a hen's egg, and was as hard as a scirrhus. I directed it to be rubbed, night and morning, with equal parts of the unguent. mercur. fort. and liniment. volat. camphorat. and ordered, internally, some mercurial alteratives, with a decoction of bark. By these aids his night-sweats, and every other disagreeable symptom, gradually abated; he gathered strength, flesh, and spirits, very fast, and the diseased testicle went on constantly decreasing, though very slowly, for near twelve months; at the expiration of which time there was no other appearance of it than a confusion of loose fibres, obvious to the feeling, in the upper part of the scrotum. About a month ago the patient consented to my examining it. Of the testicle there was not the least vestige, neither could I perceive the tunica vaginalis on that side in the groin; but upon the os pubis, and a little under it, I could embrace with my fingers and thumb the chord, and distinguish the vessels, which were without the least degree of hardness or scirrhosity; and if I pressed one in particular, I gave him exquisite pain for a moment. He is in perfect health, of a strong robust constitution, and has fine healthy children; the only change which he has perceived in the constitution has been a propensity to grow fat, which neither temperance, nor violent exercise on horseback, daily, with little rest, will prevent.

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When we see the progress that follows violent inflammation in the eye, we may the less wonder at the wasting of the testicle. The consequence of inflammation is, an increased volume of a part, either by an increase in the number or capacity of its vessels. When the inflammation has subsided, the next process must be to reduce the part to its former volume. This must be done by absorption of those parts which were added during the inflammation. When this process has commenced, it may be continued after the cause for which it was sat up has ceased. Thus, after violent and very sudden inflammation in one eye, it is not uncommon to see the globe, after re-

covery, somewhat less than in the other eye. I have even seen it recover its size afterwards; but this is very rare.

A more common effect of very high inflammation under small-pox, from which disease I have made these remarks, is suppuration; and if this take place with the eye-lids closed, it is not easy to perceive any escape of the matter, nearly the whole of which is probably absorbed. Should suppuration take place in a testicle, without having previously produced adhesion between the tunica vaginalis and scrotum, there will be nothing to produce that sympathy in the latter, by which the parts anterior to collections of matter prepare themselves for the escape of it. Hence the probability is, that the matter, being contained within the tunica vaginalis, will be gradually absorbed, like any other extraneous body.

The most surprising instance of wasted testicles is in the unfortunate subjects of the true Elephantiasis. Here, without pain, or previous local disease, the testicles gradually resolve themselves into a small packet of loose threads, which may be easily felt between the finger and thumb. These unhappy people, who, from the days of Aretæus, have been accused of excessive venereal indulgence, are actually rendered incapable of the act; and if seized before the age of puberty, the testicles never increase at the customary period, nor do the youths acquire any of the other marks of virility.

PART IV.

CHAP. I.

Of Chancre.

I HAVE been hitherto speaking of the effects of this poison, when applied to a secreting surface and without a cuticle; of the intention of Nature in producing these effects; and of all the consequences, both real and supposed. I now mean to explain its effects when applied to a surface that is covered with a common cuticle, as the common skin of the body, which on such a surface will be found to be very different from those I have been describing. But I may be allowed here to remark, that the penis, the common seat of a chancre, is, like every part of the body, liable to diseases of the ulcerative kind; and from some circumstances rather more so than other parts; for if attention is not paid to cleanliness, we have often excoriations, or superficial ulcers, from that cause; also, like almost every other part that has been injured, these parts, when once they have suffered from the venereal disease, are very liable to ulcerate anew. Since then this part is not exempted from the common diseases of the body, and as every disease in this part is suspected to be venereal, great attention is to be paid in forming our judgment of ulcers here.

It is an invariable effect, that when any part of an animal is irritated to a certain degree, it inflames and forms matter, the intention of which is to remove the irritating cause. This process is easily effected when it is on a surface whose nature is to secrete; but when on a surface whose nature is not to secrete, it then becomes more difficult, for another process must be set up, which is ulceration. This is not only the case in common irritations, but also in specific irritations from morbid poisons, as the venereal disease and small-pox. The variolous matter, as well as the venereal, produces ulcers on the skin; but when it affects secreting surfaces, a diseased secretion is the consequence; and this is different in different parts; on the tongue, inside of the mouth, uvula and tonsils, the coagulable lymph is thrown out in form of sloughs, somewhat similar to the putrid sore throat; but in the fauces and all down the œsophagus, a thickish fluid, in appearance like matter, is secreted. When the irritation is applied to a surface whose cuticle is thin, and where

there is a secretion naturally, as the glans penis, or inside of the prepuce, there it sometimes only irritates, so as to produce a diseased secretion, as was described; but this is not always the effect of such irritation on such surfaces. They are often irritated to ulceration, and produce a chancre.

The poison has in general either no disposition, or not sufficient powers, to blister or excoriate the common skin; for if it did, the symptoms most probably would be at first nearly the same, if not exactly so, with a gonorrhœa; that is, a discharge of matter from a surface, without a cuticle, newly inflamed; for it is reasonable to suppose, that the poison would produce on that excoriated surface a secretion of matter, which would be at first a gonorrhœa, and which very probably would afterwards fall into the second mode of action, or ulceration, and then become a chancre.

There are three ways in which chancres are produced; first, by the poison being inserted into a wound; secondly, by being applied to a non-secreting surface; and, thirdly, by being applied to a common sore. To whichever of these three different surfaces it is applied, the pus produces its specific inflammation and ulceration, attended with a secretion of pus. The matter, produced in consequence of those different modes of application, is of the same nature with the matter applied, because the irritations are the same in both.

The poison much more readily contaminates if it is applied to a fresh wound, than to an ulcer; in this resembling the inoculation of the small-pox. Whether there are any parts of the skin, or any other part of the body, more susceptible of this irritation than others, in consequence of local application, is not yet ascertained.

This form of the disease, like the first, or gonorrhœa, is generally caught on the parts of generation, in consequence of a connection between the sexes; but any part of the body may be affected by the application of venereal matter, especially if the cuticle is thin.

I have seen a chancre on the prolabium, as broad as a sixpence, caught, the person did not know how.* The penis, and particularly the prepuce, being the parts most commonly affected by this form of the disease, are so constructed as to suffer much from it, especially when they are very susceptible of such irritation; for the construction alone produces many inconveniences, besides considerable pain, while under the disease, and in general retards the cure.

The chancre is not so frequent an effect of the poison as the gonorrhœa; and I think very good reasons may be assigned for it, although there are more modes than one of catching it, as I just now mentioned; but the parts in two of them, to wit, the wound, and the

* That this sore was a chancre I make no doubt; for, besides its diseased appearance, he had a bubo forming in one of the glands under the lower jaw, on the same side.

It is most probable that his own fingers were the conveyers.

sore, are seldom in the way of being infected; therefore, when it is caught, it is commonly by the same mode of application with that of the gonorrhœa; but as the cuticle cannot be affected by this poison, this covering acting as a guard to the cutis, it is often prevented from coming in contact with it; and indeed it is almost surprising that the cutis should be affected by it, where it has such a covering, excepting about the glans, the inside of the prepuce, or other parts of the body, where this covering is thin. The proportion which the cases of gonorrhœa bear to those of chancre is as four or five to one.

When it is caught in men, it is generally upon the frænum, glans penis, prepuce, or upon the common skin of the body of the penis; and sometimes on the fore part of the scrotum; but I think most frequently on the frænum, and in the angle between the penis and glans. Its affecting these parts arises from the manner in which it is caught, and not from any specific tendency in these parts to catch it more than others; and its affecting the frænum, &c. more frequently than the other parts of the penis arises from the external form of this part, which is irregular, and allows the venereal matter to lie undisturbed in the chinks; by which means it has time to irritate and inflame the parts, and to produce the suppurative and ulcerative inflammation in them. But as this matter is easily rubbed off from prominent parts, by every thing that touches them, it is a reason why such parts in general so often escape this disease.

The distance of time between its application and its effects upon the part is uncertain; but, upon the whole, it is rather longer in appearing than the gonorrhœa; however, this depends in some measure on the nature of the parts affected. If it be the frænum, or the termination of the prepuce into the glans, that is affected, the disease will in general appear earlier; these parts being more easily affected than either the glans, common skin of the penis, or scrotum; for in some cases where both the glans and prepuce were contaminated from the same application of the poison, it has appeared earlier on the prepuce.

I have known cases where the chancres have appeared twenty-four hours after the application of the matter; and others where it has been seven weeks. A remarkable case of this kind was in a gentleman who had not touched a woman for seven weeks, when a chancre appeared. That this was a venereal chancre was proved, by his having had the lues venerea from it, and being under a necessity of taking mercury. An officer in the army had a chancre which appeared two months after he had had any connection with a woman. After the last connection he marched above an hundred miles, when the chancre broke out, and only gave way to mercury.

This, like most other inflammations which terminate in ulcers, begins first with an itching in the part; if it is the glands that is inflamed, generally a small pimple appears full of matter, without

much hardness, or seeming inflammation, and with very little tumefaction, the glans not being so readily tumefied from inflammation as many parts are, especially the prepuce; nor are the chancres attended with so much pain or inconvenience as those on the prepuce; but if upon the frænum, and more especially the prepuce, an inflammation more considerable than the former soon follows, or at least the effects of the inflammation are more extensive and visible. Those parts, being composed of very loose cellular membranes, afford a ready passage for the extravasated juices: continued sympathy also more readily takes place in them. The itching is gradually changed to pain; the surface of the prepuce is, in some cases, excoriated, and afterwards ulcerates. In others, a small pimple, or abscess, appears, as on the glans, which forms an ulcer. A thickening of the part comes on, which at first, and while of the true venereal kind, is very circumscribed, not diffusing itself gradually and imperceptibly into the surrounding parts, but terminating rather abruptly. Its base is hard, and the edges a little prominent. When it begins on the frænum, or near it, that part is very commonly wholly destroyed, or a hole is often ulcerated through it, which proves very inconvenient in the cure; and in general it had better, in such cases, be divided at first.

Venereal ulcers commonly have one character, which, however, is not entirely peculiar to them, for many sores that have no disposition to heal, (which is the case with a chancre,) have so far the same character. A chancre has commonly a thickened base; and although in some the common inflammation spreads much further, yet the specific is confined to this base. The future, or consequent ulcers, are commonly easily distinguished from the original, or venereal, which will be described hereafter.

If the venereal poison should be applied to the skin, where the cuticle is more dense than that of the glans penis, or frænum, such as that upon the body of the penis, or forepart of the scrotum, (parts which are very much exposed to the application of this matter,) then it generally first appears in a pimple, which is commonly allowed to scab, owing to its being exposed to evaporation. This scab is generally rubbed off, or pushed off, and one larger than the first forms. I think there is less inflammation attending these last than those on the frænum and prepuce; but more than those upon the glans.

When the disease is allowed to go on, so as to partake of the inflammation peculiar to the habit, it becomes, in many instances, more diffused, and is often carried so far, as to produce disagreeable symptoms, as phymosis, and sometimes paraphymosis, greatly retarding the cure; but still there is a hardness peculiar to this poison surrounding the sores, especially those upon the prepuce.

When these ulcers are forming, and after they are formed, or in the state of inflammation, it is no uncommon thing for the urethra to sympathize with them, and give a tickling pain, especially in making

water; but whether or not there is ever a discharge in the urethra from such a cause, I will not determine; but if a discharge never takes place but when the disease really attacks the urethra, it would make us suppose that this sympathy is not really inflammatory; or if it is carried so far as to produce inflammation, yet that is not of the specific kind. However, it is possible in those cases where there is a gonorrhœa preceded by a chancre, that this gonorrhœa may arise from sympathy, and is not a disease proceeding from the original contamination, nor from the matter of the chancre. That the sensation in the urethra, in those instances where there is no discharge, is from sympathy, and not from the urethra being attacked with the disease at the time that the matter laid the ground-work for the chancre, is evident from the following observation. I have seen it happen more than once, when the seat of the chancre had broke out a second time, and where no new or fresh infection had been caught, that the patient complained of the same tickling or slight pain in the urethra before any discharge had taken place in the beginning ulcerations. From the same connection of parts I have seen a chancre coming upon the glans absolutely cure both a gleet and an irritation all along the passage of the urethra. So great was the previous irritation in this case, that I suspected a stricture; but, on passing a bougie, found none.

In consequence of the urethra sympathising with the chancre, the testicles and scrotum will further sympathise with the urethra, and become affected. I have seen this sympathy extend over the whole pubes, and so strong, that touching the hairs gently on the pubes has given disagreeable sensations, and even pain.

In speaking of the local, or immediate effects of the venereal disease, I mentioned that they were seldom wholly specific, and that they partook both of the specific and the constitutional inflammation; and therefore it is always very necessary to pay some attention to the manner in which chancres first appear, and also to their progress; for they often explain the nature of the constitution at the time. If the inflammation spreads fast, and considerably, it shows a constitution more disposed to inflammation than natural. If the pain is great, it shows a strong disposition to irritation. It also sometimes happens that they begin very early to form sloughs; when this is the case they have a strong tendency to mortification.

These additional symptoms mark the constitution, and direct the future mode of treatment.

When there is a considerable loss of substance, either from sloughing or ulceration, a profuse bleeding is no uncommon circumstance, more especially if the ulcer is on the glans; for it would appear that the adhesive inflammation does not sufficiently take place there to unite the veins of the glans so as to prevent their cavity from being exposed, and the blood is allowed to escape from what is called the

corpus spongiosum urethræ. The ulcers, or sloughs, often go as deep as the corpus cavernosum penis, where the same thing happens.

In this most important section there is a heaviness of style which so fatigues the attention as to produce a seeming obscurity on the whole. After many attempts at illustrating the several paragraphs as they occur, I have thought it most convenient, by retracing the whole, to give Mr. Hunter's meaning in a language more suited to those who were not frequently in the habit of conversing with him.

The section comprehends,

1st. A short recapitulation of the difference in the effect produced by irritating substances applied to parts, whether secreting surfaces, particularly mucous membranes, parts covered with a very thin cuticle, or parts covered with the common cuticle. The effect on mucous membranes having been already considered, all that is necessary to be remarked here is, that the glans penis, corona, and inside of the prepuce, are to be considered as secreting surfaces, with very thin cuticle, consequently that pus may be secreted on them without a breach of their solid parts, but that ulceration more easily takes place in them than in parts which are covered by the common cuticle. The common cuticle, it is observed, cannot be excited to vesication by the venereal matter, and some conjectures are offered of the probable consequence of the application of that matter to an excoriated surface. This, it is presumed, might be at first a mere secretion from the part, as we find follows the application of common vesicatories, but that ulceration would probably follow, as is the case when vesicated parts are prevented from healing by a continuance of irritating applications.

2dly. Three ways are described in which venereal matter may be applied so as to produce its effects. These observations are well worth attending to, and are sufficiently explained by Mr. Hunter. The reason why a fresh wound is more liable to receive the impression than an ulcer, he used to remark, was probably from the ulcer being covered by its own pus, which may prevent the venereal matter from coming in contact with the living part. Many reasons are offered why gonorrhœa is a more common form of the disease than chancre. I cannot help adding that this may be at once accounted for by gonorrhœa arising from so many causes, and the impossibility of distinguishing the venereal from any other.

3dly. The parts of the penis on which the disease is more commonly caught, are next distinguished with the accuracy peculiar to our author; and this leads to the description of the true chancre, and also to the cause of its peculiar distinction from every other ulcer. On the first application of venereal matter, the same symptoms occur as from any other stimulating application to such a part, viz. the for-

mation of an ulcer, either by excoriation, or by matter formed under the thin cuticle, like a small abscess. The true ulcer follows, which at first is not distinguishable by any particular sign. "A thickening soon comes on, not diffusing itself into the surrounding part, but terminating abruptly. *Its base is hard, and edges a little prominent.*"

At the end of this paragraph, I have transposed one which in the text stands the second in order in this section. This is the only liberty I have ventured to take with the work, which I trust the reader will pardon, as it here proves particularly useful in tracing the chain of events, and the most probable causes.

"Venereal ulcers commonly have one character, which, however, is not entirely peculiar to them, for many sores that have no disposition to heal, (which is the case with a chancre,) have so far the same character. A chancre has commonly a thickened base; and although in some the common inflammation spreads much further, yet the specific is confined to this base." This hard edge and base have been noticed by other writers; but Mr. Hunter only has traced the cause. This character, he remarks, is not entirely peculiar to venereal sores, but arises from their having no disposition to heal of themselves. It is well known that sores, when frequently prevented from healing, will form a thickened, or, as it is called, a callous edge, around them, after which they remain stationary. If the healing process is commenced, the first step is the absorption of this callous edge by the ulcerative process,* usually called digestion.

Now when venereal virus first produces its irritation on a non-secreting surface, the consequence, as in other irritations, is ulceration. But this ulceration will not prove a cure as it does in other cases of irritation, because, when the venereal action is once set up, the constitution has no power of changing it.† Hence the attempt at healing being given up, the hard base is formed as in "those sores which have no disposition to heal." But the venereal ulcer, though it has no disposition to heal, cannot be stationary, like a common sore, because the irritation for the same action still continues: hence this callous edge will be absorbed in the same manner as the edge of a chronic ulcer is absorbed, as soon as the parts are stimulated by what are called digestive remedies. The consequence of two such causes in the chancre must be, a perpetual formation of this thickened edge and base, and also a perpetual ulceration of it; so that as long as the sore retains its true character, ulceration will make only a slow progress, being perpetually retarded by this thickened edge and base.

Lastly, such circumstances are enumerated as interfere with these

* Celsus has very accurately marked these processes, lib. 5. cap. 37. sect. 51.

† See page 46, "Of the common final attempt of suppuration not answering in this disease."

laws, or this train of actions. This regularity, it is shown, can only exist as long as the chancre retains its true character; during which time it preserves its *specific distance*. "The thickening of the part," says Mr. Hunter, "while of the true venereal kind, is very circumscribed; not diffusing itself gradually and imperceptibly into the surrounding parts, but terminating rather abruptly." In this sentence the reader will perceive the specific distance, which, as we before observed, marks the legitimate progress of morbid poisons. In the succeeding paragraphs are shewn the most common consequences of any interruption to the true progress of the disease, by constitutional peculiarity, accidental intemperance, or other causes; one of the first effects of which is, that the specific distance can no longer be traced.

I do not conceive that this part can be expressed with more accuracy or perspicuity than it is in the text.

The whole of this chapter is highly important, and should be perused with the strictest attention; and if it is not rendered more conspicuous by this commentary, the writer must regret his own incapacity, but cannot accuse his want of industry.

SECTION I.

Of the Phymosis and Paraphymosis.

These diseases arise from a thickening of the cellular membrane of the prepuce, in consequence of an irritation capable of producing considerable and diffused inflammation, which, when it does happen, is generally in consequence of a chancre in this part. This irritation, however, and inflammation, sometimes attack the prepuce,* even when the disease is in the form of what I suspect to be a gonorrhœa of the glans and prepuce, sometimes even in the common gonorrhœa, but most frequently of all from a chancre in the prepuce. When this disease or tumefaction takes place in consequence of a chancre, I suspect that there is an irritable disposition in the habit; for it is plain there is more than the specific action, the inflammation extending beyond the specific distance.

It may be observed here, that the prepuce is no more than a doubling of the skin of the penis when not erected, for then it becomes too large for the penis, by which provision the glans is covered and preserved when not necessary to be used, whereby its feelings are

* See page 53, where this gonorrhœa is mentioned.

probably more acute. When the penis becomes erect, it in general fills the whole skin, by which the doubling forming the prepuce in the non-erect state is unfolded, and is employed in covering the body of the penis.

The diseases called phymosis and paraphymosis, being a thickening of the cellular membrane of this part, they will commonly be in proportion to the inflammation and distensibility of the cellular membrane of the part. The inflammation often runs high, and is frequently of the erysipelatous kind; besides, in such parts where the cellular membrane is so very loose, the tumefaction is considerable, and the end of the prepuce being a depending part, the serum is accumulated in it, which in many inflammations is allowed to pass from the inflamed to some more depending part, as in an inflammation of the leg or thigh, where the foot commonly swells or becomes œdematous, in consequence of the descent of the serum extravasated above.

A natural contraction of the aperture of the prepuce is very common, and so strong in some, that those under such construction of parts have a natural and constant phymosis. Such a state of parts is often attended with chancres, producing very great inconveniences in the time of the cure; and in those cases of considerably diffused inflammation, a diseased phymosis, similar to the other, unavoidably follows; and, whether diseased or natural, it may produce the paraphymosis simply by the prepuce being brought back upon the penis; for this tight part acting as a ligature round the body of the penis, behind the glans, retards the circulation beyond the ligature, producing an œdematous inflammation on the inverted part of the prepuce. When the paraphymosis takes place in consequence of a natural tightness only, although attended with chancres, yet it has nothing to do with the constitution, this being only accidental; however, in either case, a paraphymosis is to be considered as in some degree a local violence.

This natural phymosis is so considerable in some children as not to allow the urine to pass with ease, but in general becomes larger and larger, as boys grow up, by frequent endeavours to bring it over the glans, by which the bad consequences, that would otherwise ensue in it when affected with disease, are often prevented.

This part of the prepuce, although in most men it is loose enough to produce no inconvenience in a natural state, yet it sometimes contracts without any visible cause whatever, and becomes so narrow as to hinder the water from getting out, even after it has got free of the urethra, so that the whole cavity of the prepuce shall be filled with the urine, and give great pain. The cases that I have seen of this kind have been principally in old men.

When the prepuce is in its natural position it then covers entirely the glans, and is commonly a little loose before it; but when it begins to swell and thicken, more and more of the skin of the penis is drawn

forwards over the glans, and the glans at the same time is pushed backwards by the swelling against its end. I have seen the prepuce projecting from such a cause more than three inches beyond the glans, and its aperture much diminished.

The prepuce often becomes in some degree inverted by the inner skin yielding more than the outer, having a kind of neck where the outer skin naturally terminates. From the tightness and distention of the parts in a state of tumefaction it becomes impossible to bring it back over the penis, so as to invert it, and expose the sores on the inside.

Such a state of the prepuce is very often productive of bad consequences, especially when the chancres are behind the glans, for the glans being between the orifice of the prepuce and the sores, it there fills up the whole cavity of the prepuce, between the chancres and opening, and often so tightly that the matter from the sores behind cannot get a passage forwards between the glans and prepuce, by which means there is an accumulation of matter behind the corona glandis, forming an abscess which produces ulceration upon the inside of the prepuce; this abscess opens externally, and the glans often protruding through the opening, throws the whole prepuce to the opposite side, the penis appearing to have two terminations.

On the other hand, if the prepuce is loose, wide, and is either accustomed to be kept back in its sound state, or is pulled back to dress the chancres, and is allowed to remain in this situation till the above tumefaction takes place, then it is called a paraphymosis; or, if the prepuce is pulled forcibly back after it is swelled, it is then brought from the state of a phymosis, as before described, to that of a paraphymosis.

This last described situation of the prepuce is often much more troublesome, and often attended with worse symptoms than the former, especially if it should have been changed from a phymosis to a paraphymosis. The reason of which is, that the aperture of the prepuce is naturally less elastic than either the internal inverted part, or the external skin; therefore, when the prepuce is pulled back upon the body of the penis, that part grasps it tighter than any other part of the skin of the penis, and more so in proportion to the inflammation; the consequence of which is, the swelling of the prepuce is divided into two, one swelling close to the glans, the other behind the stricture or neck. This stricture is often so great as to interrupt the free circulation of the blood beyond it, which also assists in increasing the swelling, adds to the stricture, and often produces a mortification of the prepuce itself, by which means the whole diseased part, together with the stricture, is sometimes removed, forming what may be called a natural cure.*

* A young man came into St. George's Hospital, with a paraphymosis, in

In many cases the inflammation not only affects the skin of the penis, in which is included the prepuce, but it attacks the body of the penis itself, often producing adhesions, and even mortification, in the cells of the corpora cavernosa, either of which will destroy the distensibility of those parts ever after, giving the penis a curve to one side in its erections. This sometimes takes place through the whole cellular substance of the penis, producing a short and almost inflexible stump.

The adhesions of those cells do not proceed from venereal inflammations only; they are often the consequences of other diseases, and sometimes they take place without any visible cause whatever.

A gentleman, sixty years of age, who has been lame with the gout these twenty years past, has for these eighteen months had the penis contracted on the left and upper side, so as to bend that way very considerably in erections, which erections are more frequent than common.

Quere: Is the gout the cause of this, by producing adhesions of the cells of one corpus cavernosum, so as not to yield to, or allow of, the influx of blood on that side? And is the irritation of the gout the cause of the frequency of the erections?

CHAP. II.

Of Chancres in Women.

Women are subject to chancres; but, from the simplicity of the parts, the complaint is often less complicated than in men: for, in this sex, we have only the disease and constitutional affection, and no inconvenience arising from the formation of the parts.

When the matter is introduced into the vagina, or urethra, it there irritates a secreting surface, as I described when treating of the disease in general, and of women in particular; but when it is lodged in the inside of the skin of the labia, or lymphæ, those parts are often only affected with gonorrhœa; but, like the glans penis in men, they are also capable of ulceration. Ulcerations are generally more numerous in women, because the surface upon which they can form is much

consequence of chancres on the inside of the prepuce. All the parts before the stricture, formed by the prepuce, mortified and dropped off. I ordered nothing but common dressings, and it healed very readily; and he left the hospital cured of the local complaint. Whether or not absorption had taken place, previous to the mortification, I do not know, as I never heard more of him.

larger. We find them on the edge of the labia, sometimes on the outside, and even on the perinæum.

Ulcers that are formed on the inside of the labia, or nymphæ, are never allowed to dry or scab; but on the outside they are subject to have the matter dry upon them, which forms a scab similar to those on the body of the penis, or scrotum.

The venereal matter from such sores is very apt to run down the perinæum to the anus, as in a gonorrhœa, and excoriate the parts, especially about the anus, where the skin is thin, and often produce chancres in those parts.

Chancres have been observed in the vagina, which I suspect not to have been original ones; but to have arisen from the spreading of the ulcers on the inside of the labia.

This form of the disease, like the gonorrhœa, both in women and in men, is entirely local, the constitution having no connexion with it but sympathetically; and I believe much more seldom in this than in the former.

CHAP. III.

General Observations on the Treatment of Chancres.

The inflammation from the venereal poison, when it produces ulceration, generally, if not always, continues till cured by art; which I observed was not the case with gonorrhœa. It will, perhaps, not be an easy task to account for this material difference in the two kinds of disease; but I am inclined to think, that, as the inflammation in the chancre spreads, it is always attacking new ground, which is a succession of irritations, and is the cause that it does not cure itself.

Chancres, as well as the gonorrhœa, are, perhaps, seldom or ever wholly venereal; but are varied by certain peculiarities of the constitution at the time. The treatment, therefore, of them, both local and constitutional, will admit of great variety; and it is upon the knowledge of this variety that the skill of the surgeon principally depends. On this account, the concomitant symptoms are what require particular attention. Mercury is the cure of the venereal symptoms abstractedly considered; but there is no one specific for the others, the treatment of which must vary, according to the constitution. From hence we must see, that no one kind of medicine, joined with mercury, will be likely to succeed in all cases, although the different pretended secrets are of this kind: some cases not re-

quiring any thing excepting mercury; others requiring a something besides, according to their nature, which, in many cases, it will not be an easy matter to find out, from the appearances of the chancre itself; but which must be discovered by repeated trials.

Probably from the before-mentioned circumstances it is, that a chancre is, in common, longer in healing than most of the local effects from the constitutional disease, or lues venerea; at least longer than those in the first order of parts; and this is found to be the case, notwithstanding that the cure of a chancre may be attempted, both constitutionally and locally, while the lues venerea can, in common, only be cured constitutionally. It is commonly some time before a chancre appears to be affected by the medicine. The circulation shall be loaded with mercury for three, four, or more weeks, before a chancre shall begin to separate its discharge from its surface, so as to look red, and show the living surface; but when once it does change, its progress towards healing is more rapid. A lues venerea shall, in many cases, be perfectly cured, before chancres have made the least change.

Upon the same principle some attention should be paid to internal medicines; and it should be considered whether weakening, strengthening, or quieting medicines should be given; for sometimes one kind, sometimes another, will be proper.

Chancres admit of two modes of treatment; the object of the one is, to destroy or remove them by means of escharotics, or by extirpation; that of the other is, to overcome the venereal irritation by means of the specific remedy for that poison.

I have endeavoured to show, that chancres are local complaints: this opinion is further confirmed, by their being destroyed, or cured, by merely a local treatment. But in chancres, as well as in a gonorrhœa, it has been disputed, whether mercury should ever be applied locally to them, or not: some have objected to it, while others have practised it; and probably the dispute is not yet generally settled.

Upon the general idea which I have endeavoured to give of the venereal disease, it can be no difficult task to determine this question.

It is to be observed, that in the cure of the chancres we have two points in view—the cure of the chancre itself, and the prevention of a contamination of the habit.

The first, or the cure of the chancre, is to be effected by mercury, applied either in external dressings, or internally, through the circulation; or in both ways. The second object, or preservation of the constitution from contamination, is to be obtained, first by shortening the duration of the chancre, which shortens the time of absorption, and also by internal medicine, which must be in proportion to the time that the absorption may have been going on.

If the power of a chancre to contaminate the constitution, or,

which is the same thing, if the quantity absorbed is as the size of the chancre, and the time of absorption, which most probably it is, then whatever shortens the time must diminish that power, or quantity absorbed; and if the quantity of mercury necessary to preserve the constitution is as the poison absorbed, then whatever lessens the quantity absorbed must proportionally preserve the constitution. For instance, if the power of a chancre to contaminate the constitution in four weeks is equal to four, and the quantity of mercury necessary to be given internally, both for the cure of the chancre and the preservation of the constitution, is also equal to four, then whatever shortens the duration of the chancre must lessen, in the same proportion, the quantity of the mercury; therefore, if local applications, along with the internal use of mercury, will cure the chancre in three weeks, then only three-fourths of the mercury is necessarily wanted internally. Local applications, therefore, so far as they tend to shorten the duration of a chancre, shorten the duration of absorption, which also shortens the necessity of the continuance of an internal course of mercury, all in the same proportion. For example, if four ounces of mercurial ointment will cure a chancre, and preserve the constitution, in four weeks, three ounces will be sufficient to preserve the constitution, if the cure of the chancre can be by any other means forwarded, so as to be effected in three weeks. This is not speculation; but the result of experience: and the destruction of chancres confirms it.

We have already considered the arguments contained in the first paragraph of this chapter. To speak in common language, the action excited in gonorrhœa is only an altered secretion—in chancre, it is ulceration. By analogy, if we dare trust to analogy in any pathological reasoning, we might suppose that each action, however different, yet, having been excited by a similar cause, must be superseded by similar means. If this cannot be brought to proof, in the present instance, yet the contrary position is equally destitute of proof: for, besides the impossibility of distinguishing the venereal from other gonorrhœas, many of the cases produced by Mr. Hunter himself shew the difficulty of curing some gonorrhœas, and that they retain their virulence, that is, that the action of secreting virulent matter continues after all inflammation has ceased, and nothing remains but the gleet.

I shall make very few remarks on this section, because we shall presently see, that Mr. Hunter considers the internal use of mercury as necessary in chancre, be the external applications whatever they may. The chief use of topical remedies to chancres seems to be, that ulcerated parts are good surfaces for absorption, so that, by the application of mercury to them, we may forward the effect necessary to be excited in the constitution, as will be explained hereafter. But

it will sometimes happen, from causes before mentioned, that a new action shall take place in the surrounding parts. In all such cases we must conduct ourselves according to circumstances. The directions given by Mr. Hunter are as copious as can be required. If they do not comprehend every contingency, which could scarcely be possible, they contain all the general principles, and the industry of the practitioner will teach him their application on any new case which may occur.

SECTION I.

Of the Destruction of a Chancre.

The simplest method of treating a chancre is by destroying or extirpating it, whereby it is reduced to the state of a common sore or wound, and heals up as such. This only can be done on the first appearance of the chancre, when the surrounding parts are not as yet contaminated; because it is absolutely necessary that the whole diseased part should be removed, which is done with difficulty when it has spread considerably. It may be done either by incision or by caustic. If the chancre appears upon the glans, touching it with the lunar caustic is preferable to incision, because the hæmorrhage by such a mode would be considerable, from the cells of the glans.

The common sensation of the glans is not very acute, therefore the caustic will give but little pain. The caustic to be used should be pointed at the end like a pencil, that it may only touch those parts that are really diseased; this treatment should be continued till the surface of the sore looks red and healthy after having thrown off the last sloughs; after it has arrived at this state, it will be found to heal like any other sore produced by a caustic.

If the sore is upon the prepuce, or upon the common skin of the penis, and in its incipient state, the same practice may be followed with success; but if it has spread considerably, it is then out of the power of the caustic, when only applied in this slow manner, to go so deep as to keep pace with the increasing sore; but it is very probable that the lapis septicus may answer very well in such cases. When this cannot be conveniently used, incision will answer the purpose effectually.

I have taken out a chancre by dissection, and the sore has healed up with common dressings. However, as our knowledge of the extent of the disease is not always certain; and as this uncertainty increases as the size of the chancre, it becomes necessary in some degree to assist the cure by proper dressings, and therefore it may be

prudent to dress the sore with mercurial ointment. From such treatment there is but little danger of the constitution being infected, especially if the chancre has been destroyed almost immediately upon its appearance, as we may then reasonably suppose there has not been time for absorption. But as it must be in most cases uncertain whether there has been absorption or not, this practice is not always to be trusted to; and from that circumstance, perhaps, never should; and therefore even in those cases where the chancre has been removed almost immediately, it would be prudent to give some mercury internally; the quantity of which should be proportioned to the time and progress of the sore; but if it has spread to a considerable size before extirpation, then mercury is absolutely necessary, and perhaps not a great deal is gained by the extirpation.

SECTION II.

Of the Cure of Chancres—Local Applications.

The cure of a chancre is a different thing from its destruction, and consists in destroying its venereal disposition; which being effected, the parts heal of course as far as they are venereal.

Chancres may be cured in two different ways, either by external applications or internal, through the circulation. The same medicine is necessary for both these purposes—that is, mercury.

I have shown that a gonorrhœa and a chancre have so far the same disposition as to form the same kind of matter; yet I have also observed that mercury has no more power in curing the gonorrhœa than any other medicine; and therefore it might be supposed, that mercury would have no effect in the present complaint; but we find that in a chancre it is a specific, and will cure every one that is truly venereal; but as other dispositions take place, so other assistance is often necessary, as will be taken notice of in the history of the cure. The action of this medicine must be the same, in whatever way it is given, for its action must be upon the vessels of the part, in one way acting only externally, in the other internally.*

* This is well illustrated by the application of some medicines locally to parts whose actions are immediate and visible; and by throwing the same medicine into the constitution, the same immediate and visible effect is produced; for instance, if ten grains of ipecacuanha are thrown into the stomach of a dog, it will in a short time make him vomit, from its local applications to that viscus; and if a solution of five grains is thrown into a vein, it will produce vomiting before we can conceive it to have got to the vessels of the stomach. The same effects are produced from an infusion of jalap thrown into the veins, that are commonly produced when taken into the stomach and bowels.

For external local applications, mercurial ointments are the common dressings; but if the mercury were joined with watery substances instead of oily, by mixing with the matter, the application would be continued longer to the sore, and would prove more effectual. This is an advantage that poultices have over common dressings. I have often used mercury rubbed down, with some conserve, in the room of an ointment, and it has answered extremely well. Calomel, used in the same way, and also the other preparations of mercury, mixed with mucilage or with honey, answers the same purpose. Such dressings will effect a cure in cases that are truly venereal; but perhaps we seldom have a constitution quite free from some morbid tendency.

Some will have an indolent disposition, to counteract which it will be right to join with the mercury some warm balsam in a small proportion, or as much red precipitate as will only stimulate, without acting as an escharotic; and sometimes both may be necessary.

Calomel mixed with some salve, or any other substance which will suspend it, is more active than common mercurial ointment, and, in such cases as require stimulating applications, it will answer better.

Many other applications are recommended, such as solutions of blue vitriol, verdigris, calomel, with the spiritus nitri dulcis, and many others.

But as all of these are only of service in remedying any peculiar disposition of the parts, having no specific power on the venereal poison; and as such dispositions are innumerable, it becomes almost impossible to say what will be effectual in every disposition; some will answer in one state of the sores, some in another. It may be found oftentimes that the parts affected are extremely irritable; in such cases it will be necessary to mix the mercury with opium, or perhaps preparations of lead, as white or red lead, to diminish the action of the parts.

The oftener the dressings are shifted the better, as the matter from the sore separates the application from the diseased parts, by which means the effects are lost, or diminished. Three times every day in many cases is not oftener than necessary, especially if the dressings are of the unctuous kind, for they do not mix like watery dressings with the matter, so as to impart some of their virtues to it, which would, in a proportional degree, affect the sore.

Chancres, after having their venereal taint corrected, often become stationary, and having acquired new dispositions, increase the quantity of disease in the part, as will be taken notice of hereafter. When they become stationary only, they may often be cured by touching them slightly with the lunar caustic. They seem to require that the surface which has been contaminated, or the new flesh which grows upon that surface, should be either destroyed, or altered, before it can cicatrize; and it is surprising often how quickly they will heal after being touched; and, probably, once or twice may be sufficient.

SECTION III.

Of the Treatment of Phymosis in consequence of, or attended with, Chancre.

From the history which I have given of the disease, we must see that a phymosis may be of two kinds, one natural, with the disease superadded, the other brought on by disease. The first may be increased by the disease; but, if otherwise, it is not so troublesome as the other. Such phymosis, as arise from the disease, I have observed, depend upon the peculiarity of the constitution. In either case it is often not practicable to apply dressings to the chancres on the inside of the prepuce.

A phymosis should be prevented, if possible; therefore, upon the least signs of a thickening of the prepuce, which is known by its being retracted with difficulty and pain, the patient should be kept quiet; if in bed so much the better, as in an horizontal position the end of the penis will not be so depending, but may be kept up. If confinement in bed cannot be complied with, then the end of the penis should be kept up to the belly, if possible; but this can hardly be done when the person is obliged to walk about; for the extravasated fluids, descending and remaining in the prepuce, contribute often more to render the prepuce incapable of being drawn back than the inflammation itself.

When the diseased phymosis completely takes place, the same precautions may be followed; but as the sores cannot be dressed in the common way, we must have recourse either to dressings in forms of injections, or the operation for the phymosis. If we use injections only, they should be often repeated, as they are only temporary applications.

The dressings, in form of injections, should be mercurial, either crude mercury rubbed down with a thick solution of gum arabic, which will assist in retaining some of the injection between the glans and prepuce, or calomel with the same, and a proportion of opium. In the proportion of these no nicety is required; but if a solution of corrosive sublimate is made use of as an injection, some attention is to be paid to its strength. About one grain of this to an ounce of water will be as much as the sensation of the part will allow the patient to bear; and if this gives too much pain, it may be lowered by adding more water.

After the parts are as well cleaned as possible with this injection, it will be necessary to introduce other mercurial applications, of some kind, to remain there till the parts want cleaning again, which will be very soon. Such as are mentioned before will answer this

purpose very well; but I have my doubts about the propriety of using any irritating medicines or injections in such cases.

As often as he voids his urine, the patient may wash the parts, by pressing the orifice of the prepuce together, so as to oblige the water to run back between the prepuce and glans; immediately after this the patient should use the mercurial applications, otherwise this operation of washing may do harm, as it will wash away the former application of mercury; but in many cases the parts are so sore as not to allow of this practice.

A poultice of linseed meal alone, or of equal parts of this and bread, should be applied. This poultice is to be made with water, to which one-eighth of laudanum has been added; but previous to this, and immediately after the cleaning, it would be very proper to let the penis hang over the steam of hot water, with a little vinegar and spirits of wine in it, which is the neatest way of applying fomentations.

The oftener this is practised the better; for thus a mercurial application is kept in contact with the diseased parts a greater number of the hours out of the twenty-four than otherwise could be, were the matter allowed to lie on the parts.

When to the above-mentioned symptoms a bleeding of the chancre is added, I do not know a more troublesome complaint, because here the cells or veins have no great disposition for contraction.* Oil of turpentine gives the best stimulus for the contraction of vessels of all kinds; but where bleeding arises from an irritable action of the vessels, which is sometimes the case, then sedatives are the best applications. Whatever is used in such a state of the prepuce must be injected into the part.

When, in consequence of the treatment, the inflammation begins to go off, and the chancres to heal, it will be necessary to move the prepuce upon the glans as much as they will allow of, to prevent adhesions, which sometimes happen, when there have been chancres on both surfaces opposite to each other. Indeed the practice here recommended is such as will in general prevent such consequences.

If this has not been properly attended to, and the parts have grown together, the consequences may not be bad; but it must be very disagreeable to the patient, and a reflection upon the surgeon.

I have seen the opening into the prepuce so much contracted from all these internal ulcers healing and uniting, that there was hardly any passage for the water. If the passage in the prepuce so contracted be in a direct line with the orifice of the urethra, then a bou-

* I suspect that where chancres bleed profusely, the blood comes either from the glans, when there are chancres there, or from the spongy substance of the urethra where the chancre has begun about the frænum; for we seldom see profuse bleedings from the prepuce when its inside is the seat of the chancre, and can be exposed; but, indeed, in such cases the inflammation is not violent.

gie may be readily passed; but this is not always the case: it often happens that they are not in a direct line, therefore an operation becomes necessary. The operation consists in either slitting up part of the prepuce, or removing part of it; but as these parts have become very indistinct from the adhesions, either the slitting it up, or removing part of it, becomes a difficult operation. Whenever the urethra is discovered, or can be found out by a bougie, that is to be introduced, and its application repeated, till the passage becomes free, and has got into the habit of keeping so.

I observed formerly, that this tumefaction sometimes produced a confinement of the matter formed by the chancre, and that while this effect lasted, no subsiding of the inflammation, or tumefaction, could take place; that therefore those diseases continued to exist, and that the part thus circumstanced came under our definition of an abscess; that is, the formation of matter in a state of confinement. Although it never has been considered in this light, yet the necessary treatment shows it to be such. This consists in laying it open from the external orifice to the bottom, where the matter lies, as in a sinus, or fistula, so as to discharge it. However, the intention annexed to this practice was, not to allow of the discharge of the matter of the sore, but to admit of the applications of dressings to it, for it has been recommended and practised, where there was no particular confinement of matter, which I have not found to be necessary, merely for that purpose, as we are in possession of an internal remedy; and if the opening produces no other good but the allowing of the application of dressings, it is not so material, because the sores may be washed with an injection through a syringe.

SECTION IV.

Of the common Operation for the Phymosis produced by Chancres.

The common operation for the phymosis is slitting the prepuce nearly its whole length, in the direction of the penis; but even this is sometimes thought not sufficient, and it is directed to cut the prepuce in two different places, nearly opposite to one another. When it was thought proper to be done in this way, it was imagined that it was seldom necessary to cut the whole length of the prepuce. It will in some degree depend on circumstances which practice is to be followed. If it is a natural phymosis, without tumefaction, and the chancre is near the orifice of the prepuce, which in such cases it most probably will be, as the glans is not denuded in coition so as to

have chancres deeper seated, then it may be necessary only to go as far as the chancres extend.

From the common situation of the chancre, this disease of the phymosis arises more commonly from the tumefaction of the parts; and from the idea I have endeavoured to give of the inconveniences arising from this phymosis, where the chancres are placed behind the corona, producing a confinement of the matter behind the glans, slitting open the prepuce a little way cannot be sufficient, for in such cases it must be exposed to the bottom, or no good can arise from the operation.

Although this operation will not take off the tumefaction of the prepuce so as to allow it to be brought back, yet it will allow of a free discharge of the matter, and also, in some cases, it will allow of dressings being applied to the sores; but not in all, for the tumefaction will not now allow more of an inversion of the prepuce than before, and in such the sores cannot have dressings applied to them.

In many cases it will be found that so violent an operation is improper; for it often happens, that while the inflammation is so very considerable, there is danger of increasing it by this additional violence, of which mortification may be the consequence; while, on the other hand, there are cases where a freedom given to the parts would prevent mortification; so that the surgeon must be guided by the appearances, and other circumstances. Besides these reasons for and against the operation, arising from the disease itself, it will not always be consented to by the patients themselves; for some have such a dread of operations, that they will not submit to cutting instruments; however, in those cases where the matter is confined, it will be absolutely necessary to have an opening somewhere for the discharge of it. This is often produced by the ulcerative process going on on the inside, which makes an opening directly through the skin, laterally, which affords a direction for the surgeon; therefore the opening may be made directly into the cavity of the prepuce, through the skin, on the side of the penis, by a lancet; or a small caustic may be applied there, for which the lapis septicus is the most convenient.

The opening will allow of the discharge of the matter, and also admit any proper wash to be thrown in: but this opening should not be a large one, as, in many cases, the consequence of this lateral opening proves very troublesome; for, from the tumefaction of the prepuce, the glans is squeezed on all sides, and rather more backwards upon the body of the penis than in any other direction, by which means it is often forced through this opening, whereby the glans is directed to one side, and the prepuce to the opposite, having a forked appearance. Besides, this state of the parts tightens the skin of the penis round the root of the glans, acting there somewhat like a paraphymosis, and sometimes makes the whole prepuce mortify and drop off, which is often a lucky circumstance; but if this is

not the consequence, then amputation of the prepuce becomes necessary; however, this should not be done till all inflammation is gone off, and the chancres are cured, when, probably, the tumefaction of the prepuce will have considerably subsided.

A mortification of the prepuce is sometimes a consequence of chancres, when attended with violent inflammation, even without any previous operation; and I have seen cases where the glans and part of the penis have mortified, while the prepuce has kept its ground. But I should suspect, in all such cases, that there is some fault in the constitution; and that the inflammation is of the erysipelatous, not of the true suppurative kind.

I have seen the mortification go so far as to remove the whole of the diseased prepuce; and the parts have put on so favourable an appearance, that I have treated it as a common sore, and no bad consequences have happened. In this case, the disease performed what is often recommended in other diseases of this part, that is, circumcision; but this is not always to be trusted to; for, if absorption of the venereal matter has taken place, previous to the mortification, a lues venerea will be the consequence, although the parts heal very readily.

SECTION V.

Of the Constitutional Treatment of Phymosis.

In those cases where violent inflammation has attacked the seat of a chancre, producing phymosis, as before described, and often so as to threaten mortification, a question naturally occurs—what is to be done? Is mercury to be given freely, to get rid of the first cause? or, does that medicine increase the effect, while it destroys the cause? —Nothing but experience can determine this. I should incline to believe, that it is necessary that mercury should be given; for I am afraid our powers to correct such a constitution, while the first cause subsists, are weak; however, on the other hand, I believe the mercury should be given sparingly; for, if it assists in disposing the constitution to such symptoms, we are gaining nothing, but may lose by its use. I therefore do suppose, that such medicines as may be thought necessary for the constitution should be given liberally, as well as the specific. Bark is the medicine that probably will be of most general use; opium, in most cases of this kind, will also be of singular service. The bark should be given in large quantities, and along with it mercury, while the virus is still supposed to exist: or, if the inflammation has arisen early in the disease, they may be then given

together, so as to counteract both diseases, and not allow the inflammation to come to so great a height as it would otherwise do, if mercury was given at first alone. This inflammation may be go great in many cases, or be so predominant, that mercury may increase the disposition, and therefore become hurtful. Where this may be supposed to be the case, bark must be given alone.

SECTION VI.

Of the Treatment of the Paraphymosis from Chancres.

A PREPUCE in the state of inflammation and tumefaction, and which has been either kept back upon the body of the penis while inflaming, or pulled back when inflamed, seldom can be again brought forwards while in this state, therefore becomes also the subject of an operation; which consists in dividing the same part, as in the phymosis, only in a different way, arising from its difference of situation; the intention of which operation is to bring the prepuce, when brought forwards, to the state of a phymosis that has been operated upon. This operation becomes more necessary in many cases, under this disease, than under the phymosis, because its consequences are generally worse; since, besides the real disease, viz. inflammation, tumefaction, ulceration, &c. there is a mechanical cause producing its effects; by grasping the penis, which can of itself produce inflammation where the prepuce is naturally tight, as has been observed. From whatever cause it arises, it often produces mortification in the parts between the stricture and the glans, if it is not removed. This removal sometimes happens naturally by the ulceration of the strictured part; but an operation is generally necessary; and it is more troublesome than in the former case, because the swelling on each side of the stricture covers or closes in upon the tight part, and makes it difficult to be got at.

The best way appears to be, to separate the two swellings as much as possible where you mean to cut, so as to expose the neck, then take a crooked bistory which is pointed, and passing it under the skin at the neck, divide it; no part of the two swellings on the sides need be divided, for it is the looseness of the skin in these parts which admits of their swelling. When this is done the prepuce may be brought forwards over the glans; but as this disease arose from chancres which may require being dressed, and as the state of a phymosis is a very bad one for such treatment, it may be better, now that the stricture is removed, to let it remain in the same situation till the whole is well.

If the paraphymosis has arisen from a natural tightness of the prepuce, and its being forced back from accident, then no particular treatment after the operation is necessary, but to go on with the cure as recommended in chancres. It is indeed probable, that, in consequence of the violence produced by the position of the prepuce, as also by the operation, a considerable inflammation may ensue; but as this will be an inflammation in consequence of violence only, local treatment for the inflammation will be sufficient.

But if it is a paraphymosis in consequence of a diseased phymosis, then the same mode of treatment becomes equally necessary as was recommended in the phymosis, attended with considerable inflammation; and probably rather more attention is necessary here, as violence has been added to the former disease.

SECTION VII.

Of the Cure of Chancres by Mercury, given internally.

While chancres are under local treatment, as before described, it is necessary to give mercurials internally, both for the cure of the chancre and the prevention of a lues venerea; and we may reasonably venture to affirm, that the venereal disposition of chancre will hardly ever withstand both local and internal mercurials.

In cases of chancres, where local applications cannot easily be made, as in cases of phymosis, internal mercurials become absolutely necessary; and more so than if they could be conveniently and freely applied externally. However, even in such cases, internal mercurials will in the end effect a cure; so that we need seldom or ever be under any apprehension of not curing such a disease.

In every case of a chancre, let it be ever so slight, mercury should be given internally; even in those cases where they were destroyed on their first appearance. It should in all cases be given the whole time of the cure, and continued for some time after chancres are healed; for as there are perhaps few chancres without absorption of the matter, it becomes absolutely necessary to give mercury to act internally, in order to hinder the venereal disposition from forming.

How much mercury should be thrown into the constitution in the cure of a chancre, for the prevention of that constitutional affection, is not easily ascertained; as there is in such cases no disease actually formed so as to be a guide, it must be uncertain what quantity should be given internally. It must, in general, be according to the size, number, and duration of the chancres. If large, we may suppose

that the absorption will be proportioned to the surface; and if long continued, the absorption will be according to the time; and if they have been many, large, and continued long, then the greatest quantity is necessary.

The circumstances, therefore, attending the chancre must be the guide for the safety of the constitution, especially in those cases where some stress in the cure is laid upon the external remedy.

The mercury given to act internally must be thrown in either by the skin or stomach, according to circumstances.

The quantity, in either way, should be such as may, in common, affect the mouth slightly; which method of giving mercury will be considered hereafter.

When the sore has put on a healthy look; when the hard basis has become soft, and it has skinned over kindly, it may be looked upon as cured.

But in very large chancres it may not always be necessary to continue the application of mercury, either for external or internal action, till the sore is healed; for the venereal action is just as soon destroyed in a large chancre as it is in a small one; for every part of the chancre being equally affected by the mercury, is equally easily cured: but the skinning is different; for a large sore is longer in skinning than a small one. A large chancre, therefore, may be deprived of its venereal action long before it is skinned over; but a small one may probably skin over before the venereal poison is entirely subdued. In the latter case, both on account of the chancre and constitution, it will be erring on the safe side, to continue the medicine a little longer, which will, most certainly, in the end, effect a cure: for we may reasonably suppose, that the quantity of mercury capable of curing a local effect, although assisted by local applications, or of producing in the constitution a mercurial irritation, sufficient to hinder the venereal irritation from forming, will be nearly as much as will cure a slight lues venerea.

I have formerly laid it down as a principle, that no new action will take place in another part of the body, however contaminated, whilst the body is under the beneficial operation of mercury; but there are now and then appearances which occur under the cure, that will, at first, embarrass the practitioner. I have suspected, that the mercury, flying to the mouth and throat, has sometimes produced sloughs in the tonsils; and these have been taken for venereal. The following cases, in some degree, explain this:—

A young gentleman had a chancre on the prepuce, with a slight pain in a gland of one groin, for which I ordered mercurial ointment to be rubbed into the legs and thighs, especially on the side where the gland was swelled, and the chancre to be dressed with mercurial ointment. While he was pursuing this course, the chancre became cleaner, the hardness at the base went off, and the pain in the groin was entirely removed. About three weeks after the first appearance

of the disease, he was attacked with a sore throat; and on looking into the mouth, I found the right tonsil with a white slough, which appeared to be in its substance, with only one point yet exposed. From my mind being warped by the opinion that these complaints proceeded from the chancre, I immediately suspected that it was venereal; and the only way that I could account for this seeming contradiction, in one part healing, while another was breaking out, was, that the healing sore was treated locally as well as constitutionally, while the tonsil, or the constitution at large, was only treated constitutionally; which was insufficient.

Soon after this, another gentleman was under my care, for venereal scurfs, or eruptions, on his skin, for which he used mercurial friction, till his mouth became sore; and in this state he continued for three weeks, in which time the eruptions were all gone, discolourations being left only where the eruptions had been; yet at the end of three weeks a slough formed in one of the tonsils, exactly as in the former case. This made me doubtful how far such cases were venereal. I ordered the friction to be left off, to see what course the ulcers would take; the slough came out, and left a foul sore: I waited still longer, and in a day or two it became clean, and healed up.

The first-mentioned case I did not see to an end; but I learned that the patient continued the mercury, and got well: and the ulcer in the throat was supposed to be venereal; but from the circumstances of the other case, I now very much doubt of that.

It is more than probable, that these effects of mercury only take place in constitutions that have a tendency to such complaints in the throat. I know this to be the case with the last-mentioned gentleman; and it is also probable, that there may be an increased disposition at the time, either in consequence of the mercury, or some accidental cause. I have reason to suppose, that mercury, in some degree, increases this disposition, which I shall further take notice of when treating of the cure of the lues venerea.

In the cure of chancres I have sometimes seen, when the original chancre has been doing well, and probably nearly cured, that new ones have broken out upon the prepuce, near to the first, and have put on all the appearance of a chancre; but such I have always treated as not venereal. They may be similar to some consequences of chancres, which will be taken notice of hereafter.

As swellings of the absorbent glands take place in consequence of other absorptions besides that of poisons, we should be careful, in all cases, to ascertain the cause, as has been already described; and here it may not be improper still to observe further, that in the cure of chancres, swellings of the glands shall arise, even when the constitution is loaded with mercury sufficient for the cure of the sores; but when the mercury has been thrown into the constitution by the lower extremity; and, therefore, there is great room for suspicion

that such swellings are not venereal, but arise from the mercury; for a real bubo, from absorption of venereal matter, if not come to suppuration, will give way to mercury rubbed into the leg and thigh. In such cases I have always desisted from giving the mercury in this way when I could give it by the mouth.

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This most important chapter is most unhappily obscured, partly by an awkward reference to past passages, but principally by occasional anticipation of a theory which is not developed till the latter part of the work; in which the laws of the disease, arising from absorption, are considered.

As Mr. Hunter urges the necessity of using mercury internally, that is, by friction or the mouth, in all cases of chancre, we must admit, that it is not easy for him to ascertain what effect he produced by external, or topical remedies. He urges, that "there are, perhaps, few chancres without absorption of matter." It is certain, that there can be none; for what is ulceration but absorption of the diseased part? But absorption is not necessarily followed by contamination, as we shall see hereafter.

"The circumstances," he observes, "attending the chancre, must be the guide for the safety of the constitution." One should suppose by this, that we might form some rational conjectures concerning the probability of preserving the constitution. We shall see, hereafter, how uncertain every conjecture has hitherto been; even if they were more rational, it would be impossible to comprehend Mr. Hunter's meaning, till we arrive at the passage before mentioned, where the subject is taken up in its order.

In this place, therefore, I should wish the reader to confine his attention to the cure of the chancre, or the primary local ulcer; and most of the rules here given are applicable to that only.

"Mercury given to act internally," it is added, "is thrown in either by the skin or the stomach, and, *in common*, should be continued till the mouth is slightly affected."

In common this is sufficient; because, when the mouth is slightly affected by mercurial friction, the irritation will increase, and if the chancre is not of long standing it will readily heal. But "the circumstances attending the chancre must be the guide:"—when this has lost its hard edge and base, and looks red, it will soon skin over. From the time that the surface of a chancre begins to look cleaner, or redder, the practitioner should be particularly frequent and accurate in his examination of the part. If the sore has been very small, and recent, it may skin over almost immediately; but then the skin will sometimes be found to have started over the elevated side and hard base. This, therefore, he must not trust to; but continue his mercurial frictions till the hardness is absorbed; and the skin will then line the little cavity which is made by the loss of substance.

If the chancre is of longer standing, the effect of mercury on the constitution must be proportionally great to produce a cure; nor will there be any danger of the part skinning over before it is perfectly sound; because the diseased surface will be so extensive, and the diseased habit so confirmed, that no curative process will be attempted by the parts till the mercurial irritation is very highly excited, and long continued.

In that state the chancres will become clean, and often remain nearly stationary till the constitution begins to recover from the mercurial irritation: though, therefore, the excitement should be high, it need not be continued till the sore is healed.

The reader will observe, that in all this time I have said nothing about the quantity of mercury to be used, or the mode of introducing it. Mr. Hunter has reserved that question till the conclusion of his account of the disease in all its stages, we must therefore reserve ourselves for that place. I cannot, however, conclude this passage on the cure of chancre without a remark or two.

The effect produced on the constitution, and not the quantity of mercury introduced, appears to me, from the closest examination, the only means by which the cure is produced. The sooner such effect is induced, therefore, the better; but some caution is necessary the first time a patient uses mercury, because there are certain constitutions which are very early and very violently affected by very small quantities. But however sudden such effect may be, the consequences, as to cure, are not less certain; the only caution, therefore, that is necessary is, lest we should produce so high an irritation as we cannot easily subdue, and not lest we should cure our patient too soon.

Another remark I would make on the manner in which chancres, and, indeed, the primary ulcers, induced by all morbid poisons, heal.

If the reader will turn to page 214, he will see a short remark on the treatment of a "chancre when its venereal taint is corrected, yet it does not heal, because it has acquired a new disposition, or *is become stationary.*" The new disposition will be considered in a subsequent chapter. But when they become stationary, Mr. H. remarks, "they seem to require that the surface which has been contaminated, or the new flesh which grows upon that surface, should be destroyed or altered before it can cicatrize;" after which, he adds, it is surprising how quickly they will *cicatrize*. In this passage, we may remark, that he uses the term *new flesh*, though without calling it *granulations*, and also the term cicatrix. But in the section which we are now considering he carefully avoids all these terms, and uses no other than *skinning over*. This is a striking proof of his great caution in describing exactly what he saw, though he was not aware that he was tracing a law which is peculiar to the mode of healing in morbid poisons.

A loss of substance from a morbid poison is never restored by granulations; the parts either skin over as soon as ulceration ceases, or a fungus arises from the surface. In the last case, the *new flesh*, as Mr. Hunter with his usual caution calls it, not being healthy granulation, cannot cicatrize, but as soon as its surface is altered, it heals like any other part. This fungus is more apt to arise where the natural action of the parts is interrupted by dressings; it is therefore very properly noticed by Mr. Hunter in that passage in which he speaks of the attempts at curing chancres by topical means.

If the parts are left more to themselves, they will for the most part heal with greater rapidity than common ulcers; because they have not the granulating process to pass through, nor the formation of new skin to complete the cicatrization, but the surrounding cuticle at once extends over the cavity so as to line it without any alteration in its figure.

The remainder of this section is occupied in a very important discussion, which the practitioner should always keep in view, namely, certain appearances near the seat of the chancre, and in other parts of the body, which arise whilst the constitution shows the mercurial irritation; and even whilst the chancre is showing a disposition to heal by becoming cleaner and redder. Whatever these appearances may be, we may rest assured that they are never venereal, and for the most part that they will cease with the mercurial irritation. I shall only notice those which arise round the chancre. They are what Mr. Hunter refers to in page 223, under the name of future or consequent ulcers, which, he says, are easily distinguished from the original or venereal ulcer. In the present passage, he says, "When the original chancre is nearly healed, I have seen new ones [ulcers] break out near to the first, and put on all the appearance of chancres." Mr. Hunter adds, he has never treated them as venereal: of course he has never found it necessary. It should be remarked that this similarity in appearance is not of the chancre in its full character, as is explained in page 201, where the subject is again taken up in a section on ulcerations resembling chancres. I very much suspect that these ulcers are the effect of contamination on parts which would have become chancres had not the mercurial course prevented it. In such cases, irritation from the virus may have produced a change in the parts from which they cannot recover without first ulcerating. I am the more confirmed in this, because all the cases I have seen have been those in which the chancre has been attended to in its earliest stage, probably before others have shown themselves, which would have appeared had not the mercurial process prevented them.

CHAP. IV.

Of the Cure of Chancres in Women.

The parts generally affected with chancres in this sex are more simple than in men, by which means the treatment in general is also more simple; but in most cases they require nearly the same, both in the local application of mercury, and in throwing it into the constitution. It may be supposed, however, that it will be necessary in many cases to throw into the constitution more mercury than in men; because in general there are more chancres, and the surface of absorption of course larger.

As it is difficult to keep dressings on the female parts, it is proper they should be washed often with solutions of mercury; perhaps corrosive sublimate is one of the best, as it will act as a specific, and also as a stimulant when that is wanted; but in chancres that are very irritable, the same mode of treatment as was recommended in men is to be put in practice. Afterwards the parts may be besmeared with mercurial application, either oily or watery, to be frequently repeated according to the circumstances of the case.

If the ulcers should have spread, or run up the vagina, great attention should be paid to the healing of them; for it sometimes happens that the granulations contract considerably, so as to draw the vagina into a small canal; at other times the granulations will unite into one another and close the vagina up altogether; therefore in such cases it will be necessary to keep some substance in the vagina till the sores are skinned, for which purpose probably lint may be sufficient.

CHAP. V.

Of some of the Consequences of Chancres—and the Treatment of them.

After the chancres have been cured, and all venereal taint removed, it sometimes happens that the prepuce still retains a considerable degree of tumefaction, which keeps up the elongation and

tightness which it acquired from the disease, so that it cannot be brought back upon the penis to expose the glans.

For this perhaps there is, in many cases, no cure; however it is necessary to try every possible means. The steam of warm water, fomentations with hemlock, and also fumigations with cinnabar, are often of singular service in this case.

But if the parts still retain their size and form, it may be very proper to remove part of the overgrown prepuce; how much, must be left to the discretion of the surgeon. I should suppose that all that part which projects beyond the glans penis may be cut away.

The best way of removing it is by the knife; but great care should be taken to distinguish first the projecting prepuce from the glans. When this is perfectly ascertained, the penis being held horizontally, an incision may be made on the upper surface, and followed down with caution; because if the incision should be too near the glans, there may be danger of cutting it.

The parts may be allowed to heal with any common dressings, as it is to be considered as a fresh wound; however, it will not heal so readily as a fresh wound made in an entirely sound part, because the operation consists in taking away only a superfluous part of a diseased whole; and what is left is diseased, but not so as to produce any future mischief.

Some care may be necessary in the healing of the parts; for it is very possible that the cicatrix may contract, and still form a phymosis. This will be best prevented by the patient himself if he brings the prepuce often back upon the penis; but it should not be attempted till the part is nearly healed; and it is to be performed with great care, and slowly.

SECTION I.

Of Dispositions to new Diseases during the Cure of Chancres.

Chancres, both in men and women, often acquire new dispositions in the time of cure, which are of various kinds; some of which retard the cure, as described, and when the parts are cured, leave them tumefied and indolent, as in the enlarged prepuce. In others a new disposition takes place, which prevents the cure or healing of the parts, and often produces a much worse disease than that from which it arose. They also become the cause of the formation of tumors on these parts, which will be taken notice of hereafter.

Such new dispositions take place oftener in men than in women,

probably from the nature of the parts themselves. They seldom or never happen but when the inflammation has been violent, which violence arises more from the nature of the parts than the disease, and therefore belongs more to the nature of the parts or constitution than to the disease. However I can conceive it may also take place where the inflammation has not been violent.

In general they are supposed to be cancerous, but I believe they seldom are; although it is not impossible that some may be so.

Of this kind may be reckoned those continued and often increased inflammations, suppurations, and ulcerations, becoming diffused through the whole prepuce, as also all along the common skin of the penis, which becomes of a purple hue; the cellular membrane every where on the penis being very much thickened, so as to increase the size of the whole considerably.

The ulceration on the inside of the prepuce, will sometimes increase and run between the skin and the body of the penis, and eat holes through in different places till the whole is reduced to a number of ragged sores. The glans often shares the same fate till more or less of it is gone; frequently the urethra at this part is wholly destroyed by ulceration, and the urine is discharged some way further back. If a stop is not put to the progress of the disease, the ulceration will continue till the parts are entirely destroyed. I suspect that some of these cases are scrofulous.

As this is an acute case, immediate relief should be given, if possible; but as it may arise from various peculiarities in the constitution, and as these peculiarities are not at first known, no rational method can be here determined. The decoction of sarsaparilla is often of service in such cases, but requires to be given in large quantities.

The German diet-drink* has been of singular service; I knew a case of this kind cured by it, after every known remedy had been tried. The extract of hemlock is sometimes of service. I have known sea-bathing cure these complaints entirely. A gentleman came from Ireland with a complaint of this kind; and after having tried every common and known method, without effect, as sarsapa-

* The following formulæ have been much recommended as diet-drinks. Take of crude antimony, pulverized, tied up in a bit of rag; pumice-stone, pulverized, tied up in the same, of each one ounce; China-root, sliced; sarsaparilla-root, sliced and bruised; of each half an ounce; ten walnuts, with their rinds, bruised; spring-water, four pints, boiled to half that quantity; filter it, and let it be drank daily in divided doses.

Take sarsaparilla, Sanders'-wood, white and red, of each three ounces; liquorice and mezeron, of each half an ounce; of lignum, rhodium, guaiacum, sassafras, of each one ounce; crude antimony, two ounces; mix them and infuse them in boiling water, ten pints, for twenty-four hours; and afterwards boil them to five pints, of which let the dose be from a pint and an half to four pints a day.

rilla, hemlock, German diet-drink, and after having used a great variety of dressings, (which were all at last laid aside, and opium only retained to quiet the pain,) he bathed in the sea and got well. It may be sometimes necessary to pass a bougie, to hinder the orifice of the urethra from closing or becoming too small in the time of healing in such cases.

SECTION II.

Of Ulceration resembling Chancres.

It often happens, that after chancres are healed, and all the virus gone, the cicatrices ulcerate again, and break out in the form of chancres.

Although this is most common in the seat of the former chancres, yet it is not always confined to them; for sores often break out on other parts of the prepuce; but still they appear to be a consequence of a venereal complaint having been there, as they seldom attack those who never had gonorrhœa or chancres. They often have so much the appearance of chancres, that I am persuaded many are treated as venereal that are really not such: they differ from a chancre, in general, by not spreading so fast, nor so far; they are not so painful, nor so much inflamed, and have not those hard bases that the venereal sores have, nor do they produce buboes. Yet a malignant kind of them, when they attack a bad constitution, may be taken for a mild kind of chancre, or a chancre in a good constitution.

Some stress is to be laid upon the account that the patient gives of himself; but when there is any doubt, a little time will clear it up. I have seen the same appearances after a gonorrhœa; but that more rarely happens. It would appear that the venereal poison could leave a disposition for ulceration of a different kind from what is peculiar to itself. I knew one case where they broke out regularly every two months, exactly to a day.

As they are not venereal, their treatment becomes difficult; for the cure consists more in preventing a return, than in the healing up of the present sores.

They require particular attention; for although they are not dangerous, they are often troublesome, keeping the mind in suspense for months.

I have tried a great variety of means, but with little success, yet they have in general got well in the end. In the following case, the lixivium saponarium produced a speedy cure.

A gentleman had three sores broke out on the prepuce, which had very much the appearance of mild chancres. As I was doubtful of their nature, I waited some time, and only ordered them to be kept clean. As they did not get well, several things were tried. Mercurial dressings were applied, but they always produced considerable irritation, and it was necessary to leave them off. The mercurius calcinatus was given by way of trial, and to secure the constitution, but the sores continued the same. They were eat down by the lunar caustic, which appeared to have a better effect than any other thing tried; but still they were not healed at the end of five months. I ordered forty drops of the lixivium saponarium to be taken every evening and morning in a basin of broth. After using it three days, he observed a considerable alteration in the sores, and in six they were perfectly skinned over. He had formerly had such sores often, which had always been treated as venereal; but he began to doubt whether they really were so from their getting so soon well, in the present instance, by the lixivium.

I knew a gentleman who had these sores breaking out and healing again for years. By bathing in the sea for a month or two they healed up, and never afterwards appeared.

Those are the ulcers referred to in page 201 and 226.

SECTION III.

Of a Thickening and Hardening of the Parts.

In some cases the parts do not ulcerate, but appear to thicken and become hard or firm; both the glans and prepuce seem to swell, forming a tumor or excrescence from the end of the penis, in form a good deal like a cauliflower, and, when cut into, showing radii running from its base, or origin, towards the external surface, becoming extremely indolent in all its operations. This gives more the idea of a cancer than the first, being principally a new-formed substance. However, it is not always a consequence of the venereal disease, for I have known it to arise spontaneously.

This disease appears to be a tumor of so indolent a kind, that I do not know any medicine that stands the least chance of performing a cure. I have amputated them, and have also seen the same thing done by others, from the idea of their being cancerous, and the remaining part of the penis has healed kindly.

In most of these cases a considerable part of the penis must be re-

moved. Immediately after the amputation, a suitable catheter should be introduced into the urethra; for if no such precaution is made use of, the consequences must be troublesome; for the first dressings become cemented to the orifice by the extravasated blood, and prevent the patient's making water, which must be attended with obvious inconveniences. This was the case with a patient whose penis I amputated.

SECTION IV.

Of Warts.

Another disposition which these parts acquire from the venereal poison is, the disposition to form excrescences, or cutaneous tumors, called warts. This disposition is strongest, where the chancres were; and indeed chancres often heal into warts; but perhaps the parts acquire this disposition from the venereal matter having been long in contact with their surfaces; for it often happens after gonorrhœas, where there had been no chancres; and probably it is only in those cases where the venereal matter had produced the venereal stimulus upon the glans and prepuce, forming there what may be called an insensible gonorrhœa.

A wart appears to be an excrescence from the cutis, or a tumor forming upon it, by which means it becomes covered with a cuticle, which, like all other cuticles, is either strong and hard, or thin and soft, just as the cuticle is which covers the parts from whence they arise. They are radiated from their basis to the circumference, the radii appearing at the surface, pointed or granulated, much like granulations that are healthy, except that they are harder, and rise above the surface. It would appear that the surface on which each is formed, has only the disposition to form one, because the surrounding and connecting surface does not go into the like substance; thus a wart once begun does not increase in its basis, but rises higher and higher. They have an increasing power within themselves; for after rising above the surface of the skin, on which they are not allowed to increase in breadth at the basis, they swell out into a round thick substance, which becomes rougher and rougher.

This structure often makes them liable to be hurt by bodies rubbing against them; and often from such a cause they bleed very profusely, and are very painful.

These excrescences are considered by many not as simply a consequence of the venereal poison, but as possessed of its specific disposition, and therefore they have recourse to mercury for the cure of

them; and it is asserted, that such treatment often removes them. Such an effect of mercury I have never seen, although given in such a quantity as to cure in the same person recent chancres, and sometimes a pox.

As these substances are excrescences from the body, they are not to be considered as truly a part of the animal, not being endowed with the common or natural animal powers, by which means the cure becomes easier. They are so little of the true animal, and so much of a disease, that many trifling circumstances make them decay; an inflammation in the natural and sound parts round the wart will give it a disposition to decay; many stimuli applied to the surface will often make them die. Electricity will produce action in them which they are not able to support; an inflammation is excited round them, and they drop off.

From this view of them, the knife and escharotics must appear not always necessary, although these modes will act more quickly than any other in many cases, especially if the neck is small. In such formed warts perhaps a pair of scissors is the best instrument; but where cutting instruments of any kind are horrible to the patient, a silk thread tied round their neck will do very well; but in whichsoever way it is separated, it will be in general necessary to touch the base with caustic.

Escharotics act upon warts in two different ways, namely, by deadening a part and stimulating the remainder; so that, by the application of escharotic after escharotic, the whole decays tolerably fast; and it is seldom necessary to eat them down to the very root, as the basis or root often separates and is thrown off. This, however, is not always the case; for we find that the root does not always separate, and that it will grow again; therefore, in such cases, it is necessary to eat down lower than the general surface to remove the root.

Any of the caustics, such as the lapis septicus, as also the metallic salts, such as the lunar caustic, blue vitriol, &c. have this power. The rust of copper and savine leaves mixed are one of the best stimulants.

After they have been, to appearance, sufficiently destroyed, they often rise anew, not from any part being left, but from the surface of the cutis having the same disposition as before. This requires a repetition of the same practice, so as to take off that surface of the cutis.

SECTION V.

Of Excoriations of the Glans and Prepuce.

It very often happens that the surface of the glans and inside of the prepuce excoriate, becoming extremely tender, and then a matter oozes out. The prepuce in such cases often becomes a little thickened, and sometimes contracts in its orifice, both which circumstances render the inversion of it difficult and painful. Whether this complaint ever arises from a venereal cause is not certain, as it often takes place where there never has been any venereal taint.

This disease is in the cutis; and under such a disposition it has no power of forming a good cuticle. It is very similar to a gonorrhœa in this part, but is not venereal.

Drawing the pepuce back, and steeping the parts in a solution of lead, often takes off the irritation, and a sound cuticle is formed. Spirits diluted often produce the same effect; the unguentum citrinum of the Edinburgh Dispensatory, lowered by mixing with it equal parts of hogs'-lard, is often of singular service in such cases; but there are cases which bid defiance to all our applications, in which I have succeeded by desiring the person to leave the glans uncovered, which produced the stimulus of necessity for the formation of a natural cuticle.

PART V.

CHAP. I.

Of Bubo.

A KNOWLEDGE of the absorbing system, as it is now established, gives us considerable information respecting many of the effects of poisons, and illustrates several symptoms of the venereal disease, in particular the formation of buboes. Prior to this knowledge, we find writers at a loss how to give a true and consistent explanation of many of the symptoms of this disease. The discovery of the lymphatics being a system of absorbents, has thrown more light on many diseases than the discovery of the circulation of the blood; it leads, in many cases, directly to the cause of the disease.

The immediate consequence of the local diseases, gonorrhœa and chancre, which is called bubo, as also the remote, or lues venerea, arise from the absorption of recent venereal matter from some surface where it has either been applied or formed. Although this must have been allowed, in general, ever since the knowledge of the disease and of absorption, yet a true solution of the formation of bubo could not be given till we had acquired the knowledge of the lymphatics being the only absorbents. Upon the old opinion of absorption being performed by the veins, the lues venerea could have easily been accounted for, because it could as readily be produced by the absorbing power of the veins, if they had such, as by the lymphatics; but the difficulty was to say how the bubo was formed. There they seemed to be at a loss to account for this disease, yet they sometimes expressed themselves as if they had some idea of it, although at the same time they could have no clear notions of what they advanced; nor could they demonstrate what they said from the knowledge of the parts and their uses.

Buboes are by some imputed to the stopping of a gonorrhœa, or, as they expressed it, driving it to the glands of the groin, conformably to the idea they had of the cause of the swelling of the testicle: but this is not just, for we know of no such power as repulsion; and if it was driven there, it could not be by stopping the formation of matter, but by increasing the absorption, of which they had no idea.

When we examine the opinion of authors concerning the formation

of bubo, prior to the knowledge of the power of absorption in the lymphatics, we shall find them making use of terms which they could not possibly understand. For instance, Heister says, "They are of two kinds, one venereal, and the other not;" but he does not say, that the venereal arises only from impure coition.

Astruc says, page 326, that some buboes arise immediately from impure coition, and these he calls essential; others from suppressed gonorrhœa, or a small discharge, or from chancres of the penis, and these he calls symptomatic; lastly, that they arise spontaneously, without any immediate previous coition, and are a pathognomonic sign of a hidden pox.

In page 327 he shows the impossibility of this last happening from what we now call, or understand by a lues venerea; but in page 328 he explains what he calls a latent lues venerea, which is local affection produced, as he supposed, from a lues venerea; but which most probably never yet happened: and if ever they had arisen from such a cause, even the absorption of their matter could not produce a venereal bubo, as will be explained. In short, as he understood not the true absorbing system, his ideas are become now unintelligible.*

We find Cowper, Drake, and Boerhaave, as well as Astruc, speaking of the vitiated lymph not passing the glands, therefore inflaming them; also or the inspissated lymph passing either by the circulation of the blood, that is, from the constitution to these glands, (an opinion held by some to this day,) or by a shorter course, viz. the lymphatic vessels which go to the inguinal glands. They also speak of the swelling of the inguinal glands, or venereal buboes, from the contagion being communicated by the resorbent lymphatics. Drake even speaks more pointedly; and if we consider him no further, he would almost make us believe, that he knew that the lymphatics were the absorbents; but as he has no such ideas when treating of those vessels expressly, we are not to give him credit for it. His words are, "The venereal bubo may very likely take its rise from some parts of the contagious matter of claps sucked up by the lymphatics of the penis, and thence imparted to the inguinal glands, where they deposit their liquor; and thence it well behoves the surgeon to be as early as may be in the opening of such tumors, before by the exporting vessels of that class the poison is carried further into the blood, which very probably may be the case where such tumor ariseth immediately upon the stopping of a gonorrhœa, as does the hernia humoralis; but when the same appears some months after that was removed, we are to suppose, as in cases of other poisons laying hold of the blood, by the strength of nature it is thrown forth, either by means of the lymphatics of the blood-vessels themselves, if not spewed out of the nervous tubes, as Wharton surmised, and deposited in those emunctories."

* The above extracts are from the English edition, published in the year 1754, page 326.

Here he compares it to the formation of a hernia humoralis, which plainly shows that he understood neither of them.

Even so late as the year 1748, we do not find any new ideas on this subject. Freke says, "By sealing up the mouths of the glands of the urethra, the poison is thence by the ducts leading to the inguinal glands conveyed to them."

In the year 1754, eight years after Dr. Hunter having publicly taught his opinion of the lymphatics being a system of absorbents, we find a treatise on this disease by Mr. Gataker, where as little new is advanced on this subject as in any of the former.

When we come so low down as the year 1770, in an abridgment of Astruc, by Dr. Chapman, (second edition,) in which he introduces his own knowledge and ideas, we find the absorbing power of the lymphatics brought in as a cause of the formation of buboes; by this time the knowledge of the lymphatics being the system of absorbents was in this country generally diffused.

The doctrine of absorption being now perfectly understood, we have only to explain the different modes in which it may take place.

The venereal matter is taken up by the absorbents of the part in which it is placed; and although the absorption of the matter and the effects after absorption are the same, whether from the matter of the gonorrhœa or chancre, yet I shall divide the absorption into three kinds, according to the three different surfaces from which the matter may be absorbed, beginning with the least frequent.

The first and most simple is, where the matter either of gonorrhœa or chancre has only been applied to some sound surface, without having produced any local effect on the part, but has been absorbed immediately upon its application. Instances of this I have seen in men, and such are perhaps the only instances that can be depended upon; for it is uncertain, in many cases, whether a woman has a gonorrhœa or not. I think however I may venture to affirm that I have seen it in women, or at least there was every reason to believe that they had neither chancre nor gonorrhœa preceding, as there was no local appearance of it, nor did they communicate it to others who had connexion with them.

It must be allowed that this mode of absorption is very rare; and if we were to examine the parts very carefully, or enquire of the patients very strictly, probably a small chancre might be discovered to have been the cause, which I have more than once seen: for when we consider how rarely it happens from gonorrhœa, in which the mode of absorption is similar, we can hardly suppose it probable that it should here arise from simple contract, the time of the application of the venereal matter being commonly so very short. We might indeed suppose the frequency to make up for the length of time, which we can hardly allow; for the same frequency should give the chance of producing it locally. Therefore very particular attention should be paid to all the circumstances attending such cases.

There is however no great reason why it should not happen, and the possibility of it lessens the faith that is to be put in the supposition, that the disease may be years in the constitution before it appears; for whenever it does appear in a lues venerea, its date is always carried back to the last local affection, whether gonorrhœa or chancre, and the latter connexions are never regarded.

The second mode of absorption of this matter is more frequent than the former, and it is when the matter applied has produced a gonorrhœa; and it may happen while the complaint is going on, either under a cure or not. Some of the matter secreted by the inflamed surfaces having been absorbed and carried into the circulation, produces the same complaints as in the former case, by which means the person gives himself the lues venerea.

The third mode of the absorption of the matter from an ulcer, which either may be a chancre or a bubo. This mode is by much the more frequent; which, with many other proofs, would show that a sore or ulcer is the surface most favourable for absorption. Whether ulcers in every part of the body have an equal power of absorption I have not been able to determine; but I suspect, that an ulcer on the glans is not so good a surface for absorption as one on the prepuce, although I have seen both buboes and the lues venerea arise from the former; but not so often as from the latter.

To these three methods may be added a fourth, absorption from a wound, which I have already remarked is, perhaps, not so frequent as any of the former.

As the venereal poison has the power of contaminating whatever part of the body it comes in contact with, it contaminates the absorbent system, producing in it local venereal complaints. It is hardly necessary to observe, that what is now commonly understood by a bubo is, a swelling taken place in the absorbent system, especially in the glands, arising from the absorption of some poisons or other irritating matter; and when such swellings take place in the groin, they are called buboes, whether from the absorption or not, but are most commonly supposed to be venereal, even although there has been no visible preceding cause. This has been so much the case, that all swellings in this part have been suspected to be of this nature; femoral ruptures and aneurisms of the femoral artery have been mistaken for venereal buboes.

I shall call every abscess in the absorbing system, whether in the vessels or the glands, arising in consequence of the absorption of venereal matter, a bubo.

This matter, when absorbed from either of the four different surfaces, which are, common surfaces, wounds, inflamed surfaces, and ulcers, is carried along the absorbent vessels to the common circulation; and in its passage often produces the specific inflammation in these vessels; the consequence of which is, the formation of buboes, which are venereal abscesses, exactly similar in their nature and effects to a chancre; the only difference being in size. As the absorb-

ents with the glands are immediately irritated by the same specific matter which has undergone no change in its passage, the consequent inflammation must, therefore, have the same specific quality, and the matter secreted in them be venereal.*

As this system of vessels may be divided into two classes, the vessels themselves, and their ramifications and convolutions, called the lymphatic glands, I shall follow the same division in treating of their inflammations.

Inflammation of the vessels is not nearly so frequent as that of the glands. In men, such inflammations, in consequence of chancres upon the glans or prepuce, generally appear like a chord leading along the back of the penis from the chancres. Sometimes they arise from the thickening of the prepuce in gonorrhœas, that part, in such cases, being generally in a state of excoriation, as was described when I treated of that form of the disease. These chords often terminate insensibly on the penis, near its root, or near the pubes; at other times they extend further, passing to a lymphatic gland in the groin: this chord can be easily pinched up between the finger and thumb, and it often gives a thickness to the prepuce, making it so stiff at this part as to make the inversion of it difficult, if not impossible, producing a kind of phymosis.

I think I have observed this appearance to arise as frequently from the gonorrhœa, when attended with the before-mentioned inflammation and tumefaction of the prepuce, as from chancres; which, if my observation is just, is not easily accounted for. I have observed that absorption is more common to ulcers than inflamed surfaces; or at least the formation of a bubo in the gland, and its effects in the constitution, are more common from an ulcer; but it may be remarked, that the inside of the prepuce, from whence this chord appears to arise, is in an excoriated state. It is possible that this effect may arise from the lymphatics sympathizing with the inflammation of the urethra; but I believe the affection is truly venereal; or it is possible that even the absorption of the coagulable lymph, which was produced from the venereal inflammation, and which is the cause of the tumefaction, may have the power of contamination, as appears to be the case in the cancer.

The thickening, or the formation of this hard chord, probably arises from the thickening of the coats of the absorbents, joined with the extravasation of coagulable lymph, thrown in upon its inner surface, as in inflamed veins.

This chord often inflames so much as to suppurate, and sometimes in more places than one, forming one, two, or three buboes, or small

* I do not know how far this reasoning will hold good in all cases of poisons; for I very much suspect that the bubo that is sometimes formed, in consequence of inoculation of the small-pox, does not produce variolous matter. The natural poisons, in producing buboes, certainly do not form a poison similar to themselves.

abscesses, in the body of the penis. When this is going on, we find in some parts of this chord a circumscribed hardness; then suppuration takes place in the centre, the skin begins to inflame, the matter comes nearer to it, and the abscess opens like any other abscess.

I have seen a chain of these buboes, or little abscesses, along the upper part of the penis through its whole length.

This may be supposed to be exactly similar to the inflammation and suppuration of a vein after being wounded and exposed.

Inflammation of the glands is much more frequent than the former, and arises from the venereal matter being carried on to the lymphatic glands; the structure of which appears to be no more than the ramifications and re-union of the absorbent vessels, by which means they form these bodies.

From this structure we may reasonably suppose that the fluid absorbed is in some measure detained in these bodies, and thereby has a greater opportunity of communicating the disease to them than to the distinct vessels, where its course is perhaps more rapid; which may account for the glands being more frequently contaminated.

Swellings of these glands are common to other diseases, and should be carefully distinguished from those that arise from the venereal poison. The first inquiry should be into the cause, to see if there is any venereal complaint at some greater distance from the heart, as chancres on the penis, or any preceding disease on the penis; to learn if mercurial ointment has been at all applied to the legs and thighs of that side; for mercury applied to those parts for the cure of a chancre, will sometimes tumefy the glands, which has been supposed to be venereal. We should further observe if there be no preceding disease in the constitution, such as a cold, fever, &c. the progress of the swelling with regard to quickness is also to be attended to, as also to distinguish it from a rupture, lumbar abscess, or aneurism of the crural artery.

Perhaps these bodies are more irritable, or more susceptible of stimuli, than the vessels. They are certainly more susceptible of sympathy; however we are not yet sufficiently acquainted with the use of these glands to be able to account satisfactorily for this difference.

It would appear, in some cases, that it is some time after the absorption of the venereal matter before it produces its effects upon the glands; in some it has been six days at least. This could only be known by the chancres being healed six days before the bubo began to appear; and in such cases it is more than probable that the matter had been absorbed a much longer time before; for the last matter of a chancre most probably is not venereal; and indeed it is natural to suppose that the poison may be as long before it produces an action on the parts, when applied in this way, as it is either in the urethra, or in forming a chancre; which I have shown to be sometimes six or seven weeks.

The glands nearest to the seat of absorption are in general the only

ones that are attacked, as those in the groin, when the matter has been taken up from the penis in men. In the groin, between the labia and thigh, and the round ligaments, when absorbed from the vulva, in women. I think there is commonly but one gland at a time that is affected by the absorption of venereal matter, which, if so, becomes in some sort a distinguishing mark between venereal buboes and other diseases of these bodies. We never find the lymphatic vessels, or glands, that are second in order, affected; as those along the iliac vessels, or back; and I have also seen, when the disease has been contracted by a sore, or cut upon the finger, the bubo come on a little above the bend of the arm, upon the inside of the biceps muscle; and in such where the bubo has come in that part none has formed in the arm-pit, which is the most common place for the glands to be affected by absorption.

But this is not universal, although common; for I was informed by a gentleman who contracted the disease in the before-mentioned way, that he had buboes both on the inside of the biceps muscle and in the arm-pit. Another case of this kind I have heard of since: why it is not more common is perhaps not easily explained.

It might be supposed that the matter was weakened, or much diluted by the absorptions from other parts by the time it gets through these nearest ramifications, and therefore has not power to contaminate those which are beyond them; but it is most probable that there are other reasons for this. I once suspected that the nature of the poison was altered in these glands as it passed through them, which was the reason why it did not contaminate the second or third series of glands; and also why it did not affect the constitution in the same way as it did the parts to which it was first applied; but this explanation will not account for the next order of glands to suppurating buboes not being affected by the absorption of venereal matter. It appears to me, that the internal situation of the other glands prevents the venereal irritation from taking place in them; and this opinion is strengthened, by observing when one of these external glands suppurates and forms a bubo, which is to be considered as a large venereal sore or chancre, that the absorption from it, which must be great, does not contaminate the lymphatics or glands next in order, by the venereal matter going directly through them.

If this be true, then the skin would seem to be the cause of the susceptibility of the absorbents to receive the irritation. Whether the skin has the power inherent in itself, or acquires it from some other circumstance, as air, cold, or sense of touch, is not easily ascertained; but whichever it be it shows, that the venereal matter of itself is not capable of irritating, and that it requires a second principle to complete its full effect; that is, a combination of the nature of the poison and the influence of the skin, and that influence must be by sympathy, and therefore weaker than if acting in the same part, that is, the skin itself; which perhaps is the reason why the venereal

matter does not always affect those vessels and glands, while it always does the skin, if inserted into it.

The situation of buboes arising from the venereal disease in the penis are, in men, in the absorbent glands of the groin: if a gonorrhœa is the cause of a bubo, one groin is not exempted more than the other; both may be affected. But if a bubo arises in consequence of a chancre, then the groin may be generally determined by the seat of the chancre; for if the chancre is on one side of the penis, then the bubo will commonly be on that side; however, this is not universally the case, for I have known instances, although but few, where a chancre on one side of the prepuce, or penis, has been the cause of a bubo on the opposite side, which, if arising from that chancre, is a proof that the absorbents either anastomose, or decussate each other. If the chancre be on the frænum, or on the middle of the penis, between the two sides, then it is uncertain which side will be affected.

The situation of the glands of the groin is not always the same, and therefore the course of the absorbent vessels will vary accordingly. I have seen a venereal bubo, which arose from a chancre on the penis, a considerable way down the thigh; on the contrary, I have seen it often as high as the lower part of the belly, before Poupart's ligament, and sometimes near the pubes, all of which three situations may lead to some variations in the method of cure, therefore it may be proper to attend to them.

As the disease most commonly arises from copulation, the situations of buboes are generally in the groin; but as no part of the body, under certain circumstances, is exempt from this disease, we find the nearest external glands between the part of absorption and the heart, every where in the body share the same fate with those of the groin, especially if external.

The introductory part of this chapter may be considered as an affectionate tribute of Mr. Hunter to his deceased brother. At this time the absorbent properties of the lymphatics are so generally understood, that some of the remarks may seem superfluous. It must, however, have been interesting to our author to trace the erroneous theories formed by those who wrote previously to this grand discovery, and even by Gatteker, who might have been better informed.

The next consideration is, the different modes in which absorption may take place. In the first of these, I cannot help suspecting less decision than Mr. Hunter usually assumes where he is satisfied of a fact. He says, indeed, that he has seen buboes produced in men without any local affection (either chancre or gonorrhœa) on the parts to which the virulent matter has been applied. He afterwards adds, "this mode of absorption, it must be allowed, is very rare, and probably a small chancre might be discovered to be the cause which I have seen." There is something in all this which looks like indeci-

sion. It will presently appear, too, that the author admits the difficulty, perhaps we may say the impossibility, of always distinguishing the venereal bubo from some other affections of the inguinal glands. If I were allowed to draw an inference from the whole, and from conversations with Mr. Hunter, I should say, though he had seen such buboes, which, by their progress and appearance, might be suspected to be venereal, yet he had never perfectly ascertained the fact. This subject will be reconsidered when we arrive at "secondary symptoms or lues venereal."

CHAP. II.

Of Buboes in Women.

The same diseases in the absorbents in consequence of the absorption of the venereal matter, take place in this sex as well as in men. I never saw but one case where the absorbent vessels were diseased; but this is nearly in the same proportion as in men, when I consider the proportion the number of the one sex bears to that of the other who apply to me for a cure of the venereal disease in any form. The case was a gonorrhœa with violent itching and soreness when the patient sat or walked; but she had very little pain in making water. When I examined the parts, I could see no difference between them and sound parts, excepting that the left labium was swelled, or fuller than the other, and a hard chord passed from the centre of that labium upwards to the os pubis, and passed on to the groin of the same side, and was lost in a gland as high as Poupart's ligament. It was not to be felt but by pressing the parts with some force, and it gave considerable pain upon pressure.

The swelling of the labium appeared to be somewhat similar to the swelling of the prepuce in similar cases in men, so that they would appear to arise from the same cause.

One would naturally suppose that what has been said of this complaint in the lymphatic glands in men would be wholly applicable to women; and also that nothing peculiar to women could take place; but the seat of absorption is more extensive in this sex, and the course of some of the absorbents is also different; from whence there are three situations of buboes in women, two of which are totally different from those in men, and these I suspect to be in the absorbents.

The third situation of buboes in this sex is similar to that in men; and therefore they may be divided into three, as in men.

When buboes arise in women where there is no chancre, it is more

difficult to know whether they are venereal or not than in men; for when they arise in men without any local complaint, it is known that no such complaint exists, and therefore the bubo cannot be venereal, excepting by immediate absorption; but in women it is often difficult to know whether there be any infection present or not; and therefore, in order to ascertain the nature of the bubo, attention must be paid to its manner of coming on, progress, and other circumstances.

When chancres are situated forwards, near to the meatus urinarius, nymphæ, clitoris, labia, or mons veneris, then we find that the matter absorbed is carried along one or both of the round ligaments, and the buboes are formed in those ligaments just before they enter the abdomen, without, I believe, ever going further. These buboes I suspect not to be glandular, but inflamed absorbents; and if so, it strengthens the idea that it is only an external part that can be affected in this way.

When the chancres are situated far back, near the perinæum, or in it, the matter absorbed is carried forwards along the angle between the labium and the thigh to the glands in the groin, and often in this course there are formed small buboes in the absorbents, similar to those on the penis in men; and when the effects of the poison do not rest here, it often produces a bubo in the groin as in men.

CHAP. III.

Of the Inflammation of Buboes, and the Marks that distinguish them from other Swellings of the Glands.

The bubo commonly begins with a sense of pain, which leads the patient to examine the part, where a small hard tumor is to be felt.* This increases like every other inflammation that has a tendency to suppuration; and, if not prevented, goes on to suppuration and ulceration, the matter coming fast to the skin.

But we find cases where they are slow in their progress, which I suspect either arises from the inflammatory process being kept back by mercury, or other means; or being retarded by a scrofulous ten-

* It must be remarked here, that, whenever a person has either a gonorrhœa or a chancre, he becomes apprehensive of a bubo; and as there are in the gonorrhœa, and sometimes in the chancre, sympathetic sensations in or near the groin, they are suspected by the patient to be beginning buboes, and the hand is immediately applied to that part; and if he feels one of the glands, although not in the least increased, the suspicions are confirmed from a belief that he has no such parts naturally.

dency, such a disposition in the parts not so readily admitting the true venereal action.

At first the inflammation is confined to the gland, which is moveable in the cellular membrane; but as it increases in size, or as the inflammation, and more especially the suppuration, advances, which in all cases produce rather a common than a specific effect, the specific distance is exceeded; the surrounding cellular membrane becomes more inflamed; and the tumor is more diffused. Some buboes become erysipelatous, by which means they are rendered more diffuse and œdematous, and do not readily suppurate; a circumstance often attending the erysipelatous inflammation.

To ascertain what a disease is, is the first step in the cure; and when two or more causes produce similar effects, great attention is necessary to distinguish one effect from another, so as to come at the true cause of each.

The glands of the groin, from their situation, are liable to suspicion; for, besides being subject to the common diseases, they become exposed to others, by allowing whatever is absorbed to pass through them; and as the route of the venereal poison to the constitution is principally through them, and being oftener ill from this cause than any other, they often are suspected of this disease without foundation.

To distinguish, with certainty, the true venereal bubo from swellings of those glands arising from other causes may be very difficult. We must, however, examine all circumstances, to ascertain in what the bubo differs from the common diseases of those glands, whether in the groin or elsewhere; in which examination the apparent causes are not to be neglected. I have already given the character of the venereal bubo in general terms; but I shall now be more particular, as the two are to be contrasted.

The true venereal bubo, in consequence of a chancre, is most commonly confined to one gland. It keeps nearly its specific distance till suppuration has taken place, and then becomes more diffused.* It is rapid in its progress from inflammation to suppuration and ulceration. The suppuration is commonly large for the size of the gland, and but one abscess. The pain is very acute. The colour of the skin, where the inflammation attacks, is of a florid red.

It may be observed, that the buboes, in consequence of the first mode of absorption, viz. where no local disease has been produced, will always be attended with a greater uncertainty of the nature of the disease than those attended or preceded by a disease in the penis; because a simple inflammation and suppuration of these glands are not sufficient to mark it to be venereal; but as we always have this

* It may be observed here, that the glands and surrounding parts being dissimilar, inflammation does not so readily become diffused as when it takes place in a common part.

disease in view when the glands of the groin are the seat of the disease, the patient runs but little risk of not being cured, if it should be venereal; but I am afraid that patients have often undergone a mercurial course when there has been no occasion for it.

It will perhaps be difficult to find out the specific difference in the diseases themselves; but I think that such buboes as arise without any visible cause are of two kinds, one similar to those arising from chancres or gonorrhœa; that is, inflaming and suppurating briskly. These I have always suspected to be venereal; for although there is no proof of their being so, yet from these circumstances there is a strong presumption that they are.

The second are generally preceded and attended with slight fever, or the common symptoms of a cold, and they are generally indolent and slow in their progress. If they are more quick than ordinary, they become more diffused than the venereal, and may not be confined to one gland. When very slow they give but little sensation; but when more quick the sensation is more acute, though not so sharp, as in those that are venereal; and most commonly they do not suppurate, but often become stationary. When they do suppurate, it is slowly, and often in more glands than one, the inflammation being more diffused, and commonly small in proportion to the swelling. The matter comes slowly to the skin, not attended with much pain, and the colour is different from that of the other, being more of the purple. Sometimes the suppurations are very considerable, but not painful.

Now let us see what other causes there are for the swelling of these glands besides venereal infection, to which I have ascribed one of the modes of swelling; for there must be other causes to account for the other modes of it.

The first thing to be attended to is, whether or not there are any venereal complaints; and if not, this becomes a strong presumptive proof that they may not be venereal, but proceed from some unknown cause. If the swelling is only in one gland, very slow in its progress, and gives but little or no pain, it is probably merely scrofulous; but if the swelling is considerable, diffused, and attended with some inflammation and pain, then it is most probable that there is a constitutional action consisting in slight fever, the symptoms of which are, lassitude, loss of appetite, want of sleep, small quick pulse, and an appearance of approaching hectic. Such swellings are slow in their cure, and do not seem to be affected by mercury, even when very early applied.

A gentleman had all the symptoms of a slight fever; the pulse a little quick and hard, loss of appetite, and of course loss of flesh; a listlessness, and a sallow look. While he was in this state, a swelling took place in the glands of one of the groins. He immediately sent for me, because he imagined it to be venereal. From the history of the case, I gave it as my firm opinion it was not; in this he had

not much faith. The swellings were not very painful; and after having acquired a considerable size, they became stationary. To please him, I gave him a box of mercurial ointment, to be rubbed on the leg and thigh only of the side affected, that it might have a sufficient local effect, and as little go into the constitution as possible; but it did not appear to be of any service to the swellings in the groin, they remaining stationary, and almost without pain. His friends became uneasy, and sent their surgeons to him, who, without knowing he was my patient, and of course without knowing my opinion, imagined that the disease was venereal, and talked of giving mercury. With respect to the cure, I thought he should go to the sea and bathe.

Allowing the chance of the disease being venereal or not venereal to be equal, I reasoned upon that ground. His present want of health could not be supposed to arise from any venereal cause, as it was prior to the swelling in the groin, and therefore, though the swelling might be venereal, he was not at present in a condition to take mercury, as a sufficient quantity of that medicine for the cure might kill him; and if it should not be venereal, that still a greater quantity of mercury must be given than what was necessary if it were venereal; because its not giving way readily would naturally make the surgeon push the mercury further; and, besides this disagreeable circumstance, the disease in the groin might be rendered more difficult of cure. But by going to the sea, his constitution would be restored; and if the disease in the groin proved to be venereal, he would be in a proper condition to go through a mercurial course, and by that means get rid of both diseases by the two methods. But if I should be right in my opinion, that there was nothing venereal in the case, then he would probably get well by the sea-bathing alone.

These arguments had the desired effect; he went directly to the sea, and began to recover almost immediately. About a fortnight after, a small suppuration took place in one of the glands. I directed that a poultice should be made with sea-water, and applied; and, in case of the breaking of the abscess, that it should not be further opened, but poulticed till healed. In six weeks he came back perfectly recovered in every respect.

The above-mentioned appearance, with the constitutional affections, I have seen take place when there were chancres; and I have been puzzled to determine whether it was sympathetic, from a derangement of the constitution, or from the absorption of matter.

I have long suspected a mixed case; and I am now certain that such exists. I have seen cases, where the venereal matter, like a cold or fever, has only irritated the glands to disease, producing in them scrofula, to which they were predisposed.

In such cases the swellings commonly arise slowly, give but little pain, and seem to be rather hastened in their progress if mercury is given to destroy the venereal disposition. Some come to suppuration

while under this resolving course; and others, which probably had a venereal taint at first, become so indolent that mercury has no effect upon them, and in the end get well either of themselves or by other means; which, I imagine, may have induced some to think that buboes are never venereal. Such cases require great attention, that we may be able to determine them properly; and, I believe, this requires in many cases so nice a judgment, that we shall be often liable to mistakes.

Buboes are undoubtedly local complaints, as has been explained.

How far the lymphatic glands are to be considered as guards against the further progress of this or any other disease caught by absorption, is not easily determined. We must however allow that they cannot prevent the poison from entering the constitution, in cases where it produces buboes; for whenever it affects these glands in its course, it produces the same disease in them which is capable of furnishing the constitution with an increased quantity of the same kind of poison.

CHAP. IV.

General Reflections on the Cure of Buboes.

From what has been offered on the history of buboes, it will be needless here to enter into a discussion of the opinion of their being a deposit from the constitution, and of the conclusion drawn from this opinion, that they ought not to be dispersed; for, according to this theory, to disperse them would be to throw the venereal matter upon the constitution. But if this were really the case, then there would be no occasion for the use of mercury, provided the bubo be allowed to proceed, as it would prove its own cure; but even those who were of this opinion were not satisfied with the cure which they supposed Nature had pointed out, but gave mercury, and in very large quantities. From the same history of a bubo I have also endeavoured to show that there are several buboes which are not in the least venereal, but scrofulous; and that there are also buboes which appear to be only in part venereal; or perhaps only a gland disposed to scrofula brought into action by the venereal irritation, similar to what happens often from the matter of the small-pox in inoculation. Therefore, prior to the speaking of the method of cure, the true venereal bubo is to be distinguished from the others, if possible. When it is well ascertained to be venereal, resolution is certainly to be attempted, if

the bubo be in a state of inflammation only. The propriety of the attempt depends upon the progress which the disease has made. If it be very large, and suppuration appears to be near at hand, it is probable that resolution cannot be effected; and if suppuration has taken place, I should very much doubt the probability of success, and an attempt might now possibly only retard the suppuration, and protract the cure.

The resolution of these inflammations depends principally upon mercury, and almost absolutely upon the quantity that can be made to pass through them; and the cure of them, if allowed to come to suppuration, depends upon the same circumstances. The quantity of mercury, that can be made to pass through a bubo, depends principally upon the quantity of external surface for absorption beyond the bubo.

Mercury is to be applied in the most advantageous manner, that is, to those surfaces by an absorption, from which it may pass through the diseased gland: for the disease there being destroyed, the constitution has less chance of being contaminated. The powers of mercury may often be increased from the manner in which it is applied. In the cure of buboes, it should always be made to pass into the constitution by the same way through which the habit received the poison; and therefore, to effect this, it must be applied to the mouths of those lymphatics, which pass through the diseased part, and which will always be placed on a surface beyond the disease.

But the situation of many buboes is such as not to have much surface beyond them, and thereby not to allow of a sufficient quantity of mercury being taken in in this way; as for instance, those buboes on the body of the penis arising from chancres on the glans or prepuce.

These two surfaces are not sufficient to take in the necessary quantity to cure those buboes in its passage through them; therefore, whenever the first symptoms of a bubo appear, its situation is well to be considered, with a view to determine if there be a sufficient surface to effect a cure, without our having recourse to other means. It is first to be observed, whether the absorbent vessels, on the body of the penis, are affected, or the glands in the groin. If the disease be in the groin, it must be observed in which of the three situations of the bubo, before taken notice of, it is; whether on the upper part of the thigh and groin, on the lower part of the belly before Poupart's ligament, or near to the pubes. If they are on the body of the penis, this shows that the absorbents, leading directly from the surface of absorption, are themselves diseased. If in the groin, and on the upper part of the thigh, or perhaps a little lower down than what is commonly called the groin, then we may suppose it is in the glands common to the penis and thigh. If high up, or on the lower part of the belly, before Poupart's ligament, then it is to be supposed that those absorbents that arise from about the groin, lower part of the belly,

and pubes, pass through the bubo; and if far forwards, then it is most probable that only the absorbents of the penis and skin about the pubes pass that way. The knowledge of these situations is very necessary for the application of mercury for the cure by resolution, and for the cure after suppuration has taken place.

The propriety of this practice must appear at once, when we consider that the medicine cannot pass to the common circulation without going through the diseased parts; and it must promote the cure in its passage through them; while at the same time it prevents the matter, which has already passed, and is still continuing to pass, into the constitution from acting there, so that the bubo is cured and the constitution preserved.

But this practice alone is not always sufficient; there are many cases in which mercury by itself cannot cure. Mercury can only cure the specific disposition of the inflammation; and we know that this disease is often attended with other kinds of inflammation besides the venereal.

Sometimes the common inflammation is carried to a great height, at other times the inflammation is erysipelatous, and, I suspect, often scrofulous. We must, therefore, have recourse to other methods.

Where the inflammation rises very high, bleeding, purging, and fomenting, are generally recommended. These will certainly lessen the active power of the vessels, and render the inflammation more languid; but they can never lessen the specific effects of this poison, which were the first cause, and are still in some degree the support of the inflammation. Their effects are only secondary; and if they reduce the inflammation within the bounds of the specific, it is all the service they can perform. If the inflammation be of the erysipelatous kind, perhaps bark is the best medicine that can be given; or if it be suspected to be scrofulous, hemlock, and poultices made with sea-water, may be of service.

Vomits have been of service in resolving buboes, even after matter has been formed in them, and after they have been nearly ready to burst; this acts upon the principle of one irritation destroying another; and sickness and the act of vomiting perhaps give a disposition for absorption. A remarkable instance of this kind happened in an officer, who had a bubo, at Lisbon. It came to fair suppuration, and was almost ready to burst. The skin was thin and inflamed, and a plain fluctuation felt. I intended to open it; but as he was going on board a ship for England on the day following, I thought it better to defer it. When he went on board, he set sail immediately; and the wind blew so very hard that nothing could be done for some days, all which time he was very sick, and vomited a good deal; when the sickness went off, he found the bubo had disappeared, and it never afterwards appeared. When he came to England, he went through a regular course of mercury.

SECTION I.

Of Resolution of the Inflammation of the Absorbents on the Penis.

The surface beyond the seat of the disease in this case, that is, all that part of the penis before the bubo, is not large enough to take in a quantity of mercury sufficient to prevent the effects of absorption, and therefore recourse is to be had to other means; yet this application should by no means be neglected, and this surface, small as it is, should be constantly covered with mercurial ointment, which will assist in the cure of the local disease. It may be disputed whether any medicine can pass through diseased lymphatics, so as to have any effect upon them, but I judge from experience that it certainly can. As this surface is too small, and as it is necessary that a larger quantity should be taken in, it becomes proper to give it either by the mouth, or by friction on some larger surface; this is necessary to prevent the lues venerea, as well as to cure the parts themselves. The quantity cannot be determined; that must be left to the surgeon, who must be directed by the appearances of the original complaint, and the readiness with which the disease gives way.

The same method is to be followed in women; but as there is a larger surface in this sex, more mercury may possibly be absorbed; and there should be a constant application of ointment to the inside and outside of the labia.

SECTION II.

Of the Resolution of Buboes in the Groin.

The inflammation of the glands is to be treated exactly upon the same principle with the other; but we have in general a larger surface of absorption, so that we can make a greater quantity of mercury pass through the diseased parts.

It will be proper to apply the mercury according to the situation of the inflamed gland. If the bubo be in the groin, according to our first situation, then it is necessary to rub the mercurial ointment upon the thigh. This surface will in general absorb as much mercury as will be sufficient to resolve the bubo, and to preserve the constitution from being contaminated by the poison that may get into it; but if resolution does not readily take place, then we may increase the surface of friction, by rubbing the ointment upon the leg.

But if the bubo be on the lower part of the belly, that is, in the second situation, then the ointment should be rubbed also upon the penis, scrotum, and belly; and the same, if the bubo should be still forwards; for probably those glands receive the lymphatics from all the surfaces mentioned, as well as from the thigh and leg.

The length of time for continuing the frictions must be determined by circumstances. If the bubo gives way, they must be continued till it has entirely subsided, and perhaps longer, on account of the cause of it, a chancre, which may not yield so soon as the bubo. If it still goes on to suppuration, the frictions may or may not be continued; for I do not know for certain if any thing is to be gained by their continuance in this state.

The quantity, here recommended, may affect the mouth; and this effect must also be regulated according to circumstances.

SECTION III.

Of the Resolution of Buboes in Women.

When treating on the seat of buboes in women, I observed that two situations were peculiar to them, the others similar to those in men.

In the first and second situations, especially the first, the surface of absorption, beyond the bubo, is by much too small to be depended upon for receiving a sufficient quantity of mercury to produce resolution; but in the second, that is, between the labia and thigh, the mercury may be rubbed in all about the anus and buttock, as all the absorbents of those parts probably pass that way; we know at least that they do not pass into the pelvis by the anus, but go by the groin. Others means of introducing mercury must be recurred to, as is recommended in the case of men; but still it will be proper to rub in on these surfaces as much as possible.

In the situations common to both sexes, we have a larger field; yet as they are divisible into three, the same observations hold good, and a similar mode of practice is to be followed in women as in men.

SECTION IV.

Of Buboes in other Parts.

As venereal buboes arise from other modes of application of the poison besides coition, they are to be found in different parts of the body, but more frequently in the hands. They arise in the arm-pits, from wounds in the hands or fingers being contaminated by venereal matter, and reduced to a chancre. In such cases it becomes necessary, that the ointment should be rubbed on the arm and fore-arm; but this surface may not be sufficient, therefore we must apply it in another way, or to other parts, to produce its effects upon the constitution.

I have seen a true venereal chancre, on the middle of the lower lip, produce a bubo on each side of the neck under the lower jaw, just upon the maxillary gland. By applying strong mercurial ointment to the under lip, chin, and swellings, they have been resolved.

SECTION V.

Of the Quantity of Mercury necessary for the Resolution of a Bubo.

The quantity of mercury necessary for the resolution of a bubo must be proportioned to the obstinacy of the bubo; but care must be taken to stop short of certain effects upon the constitution. If it be in the first situation, and yields readily to the use of half a dram of mercurial ointment, made of equal parts of quicksilver and hogs' lard, every night, and the mouth does not become sore, or at most only tender, then it will be sufficient to pursue this course till the gland is reduced to its natural size; and this probably will be a good security for the constitution, provided that the chancre, which may have been the cause of the bubo, heals at the same time. If the mouth is not affected in six or eight days, and the gland does not readily resolve, then two scruples, or a dram, may be applied every night; and if there be no amendment, then more must be rubbed in; in short, if the reduction is obstinate, the mercury must be pushed as far as can be done without a salivation.

If there be a bubo on each side, then there cannot be so much mercury applied locally to each; for the constitution most probably could not bear double the quantity which is necessary for the resolution of one. But in such cases we must not so much attend to the

soreness of the mouth as when there is but one; however, we must allow the buboes to go on to suppuration, rather than affect the constitution too much by the quantity of mercury; and therefore, when there are two buboes, they are more likely to suppurate than where there is only one.

In the second and third situation of buboes, if we find that most probably a sufficient quantity of mercury does not pass through them for their resolution, it may be continued to be thrown in by the leg and thigh to act upon the constitution, as has been already observed. The quantity admitted in this way must be greater than what would be necessary if the whole could be made to pass through the bubo. The mouth must be affected, and that in proportion to the state and progress of the bubo.

This method of resolving buboes occurred to me at Belleisle, in the year 1761, where I had good opportunities of trying it upon the soldiers; and I can say with truth, that only three buboes have suppurated under my care since that time, and two of these were in one person, where a small quantity of mercury had considerable effects on the constitution, and therefore a sufficient quantity could not be sent through the two groins for their resolution; but in both cases the suppurations were small in comparison to what they threatened to be.

Many buboes, after every attempt, remain swelled without either coming to resolution or suppuration, but rather become hard and scirrhous. Such, I apprehend, were either scrofulous at first, or became so when the venereal disposition was removed. The cure of them should be attempted by hemlock, sea-water poultices, and sea-bathing, as will be further taken notice of.

SECTION VI.

Of the Treatment of Buboes when they suppurate.

After every known method has been used, buboes cannot in all cases be resolved, but come to suppuration. They then become more an object of surgery, and are to be treated in some respects like any other abscess. If it be thought proper to open a bubo, it should be allowed to go on thinning the parts as much as possible. The great advantage arising from this is, that these parts, having become very thin, lose the disposition to heal, which gives the bottom of the abscess a better chance of healing along with the superficial parts: by this means, too, a large opening is avoided, and the differ-

ent modes made use of for keeping the skin from healing, till the bottom is healed, become unnecessary.

It may admit of dispute, whether the application of mercury should be continued or not through the whole suppuration. I should be inclined to continue it, but in a smaller quantity; for although the parts cannot set about a cure till opened, yet I do imagine that they may be better disposed to it; and I think that I have seen cases where suppuration has taken place, although under the above-mentioned practice, that were very large in their inflammation, but very small in their suppuration, which I imputed to the patient's having taken mercury in the before-mentioned way, both before and while suppuration was going on.

It has been disputed more in this kind of abscess than in others, whether it should be opened or allowed to burst of itself; and likewise whether the opening should be made by incision or caustic.

There appears to be nothing in a venereal abscess different from any other, to recommend one practice more than another. The surgeon should in some degree be guided by the patient. Some patients are afraid of caustics; others have a horror of cutting instruments; but when it is left wholly to the surgeon, and the bubo is but small, I suppose, a slit with a lancet will be sufficient; in this way no skin will be lost. But when a bubo is very large, in which there is a large quantity of loose skin, perhaps the caustic will answer better, both on account of its destroying some skin, and because the destruction is attended with less inflammation than what attends incision. If done by a caustic, the lapis septicus is the best;* but it is not necessary to open every bubo, and perhaps it may be difficult to point out those where opening would be of service, or necessary.

The bubo is to be dressed afterwards according to the nature of the disease, which, I have already observed, is often so complicated as to baffle all our skill. The constitution at the same time is to be attacked with mercury, either by applying it internally or externally; if externally, it should be applied to that side, and beyond where the bubo is, as I before directed, in treating of the resolution of buboes; for it may have some influence on the disease in its passing through the part.

Mercury, in these cases, answers two purposes; it assists the external applications to cure the buboes, and it prevents the effects of the constant absorption of the venereal matter from the sore.

How far it is necessary to pursue the mercurial course with a view to prevention, it is not possible to determine; but it may be supposed

* I once opened two buboes in the same person, one immediately after the other. The first was with the lapis infernalis, which gave him considerable pain; and therefore he would have the other opened with a lancet, as the pain would only be momentary: but it was great, and the soreness continued long, while there was no pain in the other, deadened by the caustic, after it had done its business.

that it is necessary to give the same quantity to prevent a disease that would cure one that has already taken place. It will be necessary to continue the course till the bubo is healed, or till it has for some time lost its venereal appearance; but it may be difficult to ascertain this last fact; therefore we must have recourse to experience, not theory, and continue the course in general till the whole is healed; and even longer, especially if the bubo heals very readily; for we find in many cases that the constitution shall be still tainted after all; however, some restrictions are here necessary; for I have already observed, that it often happens, that buboes assume other dispositions besides the venereal, which mercury cannot cure, but will even make worse. It is therefore very necessary to ascertain the distinction; which will be taken notice of.

CHAP. V.

Of some of the Consequences of Buboes.

I FORMERLY observed, that the venereal disease is capable of bringing latent dispositions or susceptibilities into action. This is remarkably the case with buboes; and I believe the disposition is more of the scrofulous kind than any other. Whether this arises from the buboes being formed in lymphatic glands, or not, is probably not easily determined.

It sometimes happens, that these sores, when losing, or entirely deprived of the venereal disposition, form into a sore of another kind, and most probably of various kinds. How far it is a disease arising from a venereal taint, and the effects of a mercurial course jointly, is not certain; but most probably these two have some share in forming the disease. If this idea of it were just, it would become a specific disease, and be reducible to one method of cure; but I should suspect that either the constitution or the part hath some, if not the principal, share in it; that is, the parts fall into a peculiar disease, independent of the constitutional disease, or method of cure; for if it arose out of the two first entirely, we might expect to meet with it oftener. So far as the constitution or the part has a share in forming this disease, it becomes more uncertain what the disease is, because it must in some degree partake of the constitution, or nature of the part.

Such diseases make the cure of the venereal affection much more uncertain; because, when the sore becomes stationary, or the mercury begins to disagree, we are ready to suspect that the virus is

gone; but this is not always the case; the virus is perhaps only less powerful than the new formed disease, and, as it were, lies dormant, or ceases to act; and when the other becomes weaker, the venereal influence begins to show itself again.

The proper treatment, in such cases, is to attack the predominant disease; but still the difficulty is to find out the disease, and to know when it is or is not venereal. The following case explains this difficulty very well:—

A gentleman had a very large venereal bubo, which was opened. He took a great deal of mercury for about two months; but, I suspect, not in sufficient doses, which produced a mercurial habit. The bubo had no disposition to heal, and I was consulted. From the account he gave me, I suspected that he had then too much of a mercurial habit to receive at this time any further good from that medicine. I therefore advised him to use a good nourishing diet for near a month; after that I put him upon a brisk mercurial course by friction; and the parts put on a better appearance. This course he continued for near two months, and then the sore, although much mended, began to be stationary. I did now conceive that the venereal action was destroyed, and therefore immediately left off the mercurial course and put him upon a milk diet, and sent him into the country. But not gaining much ground, he had a strong decoction of the sarsaparilla, with mezereon, given him, which, although continued for above a month, produced little or no effect. I also gave him the cicuta as much as he could bear, with the bark almost the whole time, without effect: new sinuses formed, which were opened, and the sore became extremely irritable, with thickened lips. The dressings were, poultices made with the juice of hemlock, sea-water, opium, and a gentle solution of lunar caustic; but nothing seemed to affect it. I suspected scrofula, and therefore proposed he should bathe in the sea; but this then could not be done. These different treatments, after mercury had been left off, took up about four months without the least benefit. Being doubtful whether there might not be still something venereal in the sore, especially as appearances were growing worse, and it was now four months since he had taken any mercury, I was inclined to try it once more, and sent him two portions of ointment, half an ounce each, to rub in in two nights. He had caught a little cold, and therefore did not rub in the mercury the two evenings as ordered; and called upon me the third day, and told me he was much better: the sore now became easy; the watery or transparent inflammation began to subside; the lips became flatter and thinner; and the edges of the sore began to heal. I then desired him not to rub in the ointment, but wait a little. In eight or ten days the sore had contracted to three quarters of its former size, and had all the appearance of a healing sore.

Quere: What conclusions should be drawn from this case? I think the following: that the virus may be gone although the sore

may have no disposition to heal: therefore we are not to look upon the not healing of a bubo as a sign of the presence of the original disease. Secondly, that the sarsaparilla, mezereon, cicuta, and the bark, will not succeed in all such cases; and thirdly, that some of these diseases are capable of wearing out the unhealthy disposition of themselves, and that we should not be too ready to attribute cures to our treatment; for if the mercury had been rubbed in, and the same effects had still taken place, I should then have certainly pursued the mercury with vigour, and attributed the cure to it: but I should not have rested here: I should have related the case as an instance of the disease continuing after repeated courses of mercury, and should have contended, that it is necessary in such cases, where the mercury appears to lose its power, and even do harm, to wait, and season the constitution to strength, and the loss of the mercurial habit; and that even four months are sometimes necessary for this purpose; after which we must begin again to give mercury.

A gentleman had a common gonorrhœa, which was severe. I gave him an injection of a grain of corrosive sublimate in eight ounces of water, with a few mercurial pills. After having continued the injection for ten or twelve days without any visible benefit, I gave it as my opinion that it would be of no service to continue it any longer; and therefore desired he would be quiet for a little time. About this time a swelling in each groin took place, and supposing them to be venereal, I ordered mercurial ointment to be rubbed into both the legs and thighs to resolve them if possible. He appeared to be less uneasy about the buboes than he was about the gonorrhœa; but I told him that the cure of that complaint would be insensibly involved in the resolution of the buboes. I spoke too confidently of my power, with respect to the resolution of the buboes, for they both suppurated; although the suppuration was small in comparison to the magnitude of the buboes when they first inflamed. The frictions were left off.

While we were attempting to resolve the buboes, he got well of the gonorrhœa. The skin covering the buboes became thin; they were both opened, one with a caustic, the other with a lancet; he then was ordered to rub in mercury again on the thighs and legs for their cure. They began soon to look well, and to close fast; but when half healed they became stationary. I suspected that a new disease was forming. On continuing the frictions a little longer they began to inflame and swell anew, and a suppuration took place about half an inch above each of the first suppurations, which broke into the first. I left off the mercury immediately upon their inflaming, and said that now a new disease had formed. I ordered poultices made with sea-water to be applied, and also a decoction of sarsaparilla to be taken; but this appeared not to be sufficient for the cure of this new disease. I then ordered him to go into the tepid sea-bath every evening, the heat of the water to be about ninety degrees. By the time

he had been in the bath four times, the inflammation and swelling had much abated, and the first sores, or original buboes, were beginning to heal. He went on with the bathing every evening for about three weeks, when the sores rather began to look worse; I then suspected that the venereal disposition was become predominant, and I ordered the friction as before. In about a fortnight the first buboes healed, but the second suppurations were not yet healed; then I supposed it to be entirely the new formed disease, and he went into the country, where I desired he might go into the open sea every day, as he then could have an opportunity, which he did, and got perfectly well, and has continued so.

This case plainly shows that there was another disposition formed besides the venereal, which was put into action by the venereal irritation.

I have seen some buboes most exceedingly painful and tender to almost every thing that touched them, and the more mild that the dressings were, the more painful the parts became.

In some the skin seems only to admit the disease; ulceration going on in the surrounding skin, while a new skin forms in the centre, and keeps pace with the ulceration, forming an irregular sore like a worm-eaten groove all round. This, like the erysipelatous inflammation, as also some others, appears to have only the power of contaminating the parts that have not yet come into action; and those that have already taken it seem to lose the diseased disposition, and heal readily.

In some they spread to an amazing extent, as the following case shows, the circumstances of which are very remarkable:

A young gentleman, aged eighteen years, in consequence of a venereal infection, had two buboes, which were both opened. They were treated in the usual manner, and at first put on a favourable appearance; but, when they were nearly healed, they began to ulcerate at their edges, and spread in all directions, rising above the pubes almost to the navel, and descending upon each thigh. His nights became restless, and his general health was affected. A great variety of medicines were tried, particularly mercury in different forms, with little or no effect. Extract of hemlock did more good than any thing else, and was taken in unusual quantities. An ounce was swallowed in the course of the day for some time, which was afterwards increased to an ounce and a half, two ounces, and even two ounces and a half. It produced indistinct vision and blindness, loss of the voice, falling of the lower jaw, a temporary palsy of the extremities, and once or twice a loss of sensation; and notwithstanding he was almost every night in a state, as it were, of complete intoxication from the hemlock, his general health did not suffer, but, on the contrary, kept pace in its improvement with the ulcers. They could not, however, be healed by the hemlock; and, among many other things, Æthiop's mineral and Plummer's pill were liberally given,

seemingly with advantage. Recourse was had to the hemlock from time to time. A great many different kinds of dressings were made trial of, none of which were found to exceed dry lint. The ulcers were nearly all healed, after having tormented him upwards of three years, when, committing some irregularities in diet, and the sores getting worse, he returned to the extract of hemlock, which he had for some time laid aside, and of himself swallowed in the course of the morning ten drams. This quantity was only the half of what he had formerly taken in twenty-four hours, but his constitution had been at that time gradually habituated to the medicine. The ten drams produced great restlessness and anxiety; he dropt insensible from his chair, fell into convulsions, and expired in two hours.

To return to the cure of buboes. Where they only become stationary, and appear to have but little disposition to spread, (which is most common,) and where perhaps a sinus or two may be found running into them from some other gland, I have often seen them give way to hemlock sooner than to any thing I am acquainted with, and especially if joined to the bark. If the hemlock is applied both internally and externally it answers better.

Sarsaparilla is often of singular service here, as well as in other cases, arising seemingly from the same cause; and I have seen sea-bathing of great service, as also sea-water poultice.

At the Lock Hospital they use gold-refiner's water as an application, which is of service in some cases. Dr. Fordyce recommends the juice of oranges to be drunk in large quantities, which I have seen good effects from in some cases. The mezereon is, in some instances, of singular use.

The treatment of bubo is so amply stated in this part of our author's work, that I shall make only a single remark.

In all cases of open buboes, when there is sufficient reason to believe them venereal, the patient should be treated with mercury, so as to excite a considerable degree of irritation; unless the parts should show a clean, fiery, red appearance, accompanied with extreme tenderness, and a disposition to spread, or, as it is usually called, to become phagedænic.

In these cases we may be certain the action going on is not only not venereal, but that it is the effect of the mercury, the use of which should instantly be stopped.

But in all other cases, if we think it necessary to salivate, it is best to do it effectually; after which, we may be satisfied, that whatever difficulties occur in healing the bubo, are not from the venereal virus. The number of parts concerned in the open bubo, their different forms and actions, renders it extremely difficult, if not impossible, to determine by the eye, whether it is venereal, unless those appearances are present which we have just remarked, as consequent

on high mercurial irritation. In all other cases we must judge very much by the history; and to render this satisfactory, the mercurial course should be such as we may depend on for superseding the venereal action. After this we must act according to circumstances.

It is true that after the effects of a violent mercurial course have subsided, some buboes remain in a tedious chronic state, and are even afterwards cured by mercury. This has given rise to the opinion that they must have been venereal, as if mercury would not supersede a chronic local disease unless it were venereal. In short, the treatment must be, as Mr. Hunter seems to admit, in great measure, experimental. The case related in page 257 should be read with much attention. It shows the great modesty of the author, and also how fallacious that judgment must be which considers only the accidental success of individual cases. It is probable this patient owed his cure to some little change in his constitution, which first showed itself by what he called a "little cold;" that this change induced a new action on an indolent sore, which ended in recovery, without the inconvenience and uncertain consequence of a mercurial course. It may be urged, that if such a change is all that is required, mercury will at any time produce it; but we are to recollect, if the mercurial phagedæna exists, the exhibition of mercury, instead of producing a change, will exasperate the disease. If the ulceration is become stationary or indolent, mercury may and sometimes does succeed; but as there is always danger of reviving the mercurial action, that remedy should rather be the last, than the first, to which we should apply.

PART VI.

Of Lues Venerea.

INTRODUCTORY REMARKS.

It may not be amiss, before we enter on this part of the work, to remind some few of our readers, that lues venerea, syphilis, and secondary symptoms, are used by Mr. Hunter as synonymous terms, none of them being ever applied to chancre or gonorrhœa, but to those symptoms only which arise in consequence of absorption. The old writers, from the time of Austruc, used the terms, first infection, and second infection; the last of which they called confirmed pox. These remarks are no otherwise important, than as the knowledge of them may relieve the reader, if the term should happen to be anticipated.

It will be necessary to avoid confounding the expressions of primary and secondary symptoms, with those of first and second order of parts. This language is peculiar to Mr. Hunter, and perhaps was necessary, with some other new expressions, to describe a series of actions, in the order in which they usually follow each other. These and some other terms I shall endeavour to elucidate in the order in which they occur, trusting to the candour of the reader who is previously acquainted with Mr. Hunter's doctrine, if what may be new to others should prove prolix and uninteresting to himself.

CHAP. I.

Of the Lues Venerea.

The lues venerea, I have already observed, arises in consequence of the poisonous matter being absorbed and carried into the common circulation. This form of the disease, which I have called the con-

stitutional,* would appear to be much more complicated, both in the different ways in which it may be caught, and in its effects when caught, than either a gonorrhœa or chancre. It generally arises from the local complaints before taken notice of, the matter being absorbed and carried into the constitution. The matter, however, appears to be capable of being taken into the constitution by simple application, without first having produced either of the before-mentioned local effects, as I observed in treating of the formation of the bubo; but this seems to be only when it is applied to some particular parts of our body, such as may be called a half internal surface, as the glans penis. I think it is not capable of being received by the absorbents of the sound skin; but this is matter only of opinion.

It may likewise be received into the constitution by being applied to common ulcers, although not necessarily rendering these ulcers themselves venereal; also by wounds, as has been observed; but, I believe, always previously producing ulceration in the wound.

Many other modes of infection have been supposed, but, I believe, erroneously; such suppositions most probably having taken their rise from ignorance or deceit, two great sources of error in this disease.

It is most likely, that contamination takes place about the beginning of the local complaints, especially when that is a chancre; for there is in most cases less chance of its happening afterwards, because the patient commly flies to medicine, which generally becomes a prevention of contamination. For if it could take place through the whole time of the cure, we should have the parts contaminated at different periods, coming into action at different times, each according to its stated time, although in similar parts both in their nature and other circumstances; but as these similar parts do not vary much in the time of coming into action, it is reasonable to suppose that they were contaminated at or near the same time, and therefore that no contamination takes place in the time of the cure, although we may suppose that the power of absorption is equally strong then as at any other time.

In cases of contamination from a gonorrhœa, where no mercury has been taken, we might expect this irregularity in similar structures; but as contamination so seldom takes place in this way, we have not a chance of great variety from such; however, it would be

* The term *constitutional* is, perhaps, not strictly a proper term; for by constitutional disease strictly, I would understand that, in which every part of the body is acting in one way, as in fevers of all kinds, either sympathetic or original; but the venereal poison appears to be only diffused through the circulating fluids, and, as it were, to force certain parts of the body to assume the venereal action, which action is perfectly local, and takes place in different parts in regular succession of susceptibilities; there are but few parts therefore acting at the same time; and a person may be constitutionally affected in this way, and yet almost every function may be perfect.

worth while to ascertain the matter, which from a great many cases might be done.

Without being very exact in ascertaining the different proportions in those who have the lues venerea originating from the three several modes above described, I think we may venture to say from general practice or experience, that where one contracts it from the first cause, that is, where no local effects have been produced, a hundred have it from the second, or gonorrhœa; and where one has it from the second, a hundred have it from the third, or chancre; and perhaps not one in five hundred who have connection with venereal women, have it in the first way, and not one in a hundred have it from the second; while not one in a hundred would escape it from the third, if the means of prevention were not made use of in the common method of cure of the chancre.

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I suspect that Mr. Hunter admits the different modes of absorption, and subsequent contamination mentioned in the beginning of this chapter, that is, without previous chancre or gonorrhœa, rather as events which may have happened, than as such as he had witnessed. The cases of inoculated small-pox, related with so much accuracy by Mr. Whateley,* may perhaps be brought as proofs, that constitutional symptoms may appear without a primary affection on the part to which the matter of a morbid poison has been applied. I can however assert, that in the numbers inoculated at the Small-Pox Hospital, we have never found reason to suspect a subject has received the infection by inoculation, without the production of a previous local pustule on the part. Nor do I recollect any author besides Mr. Whateley that has met with the incidents he describes. This, it may be urged, should be imputed to that gentleman's greater accuracy. I am ready to admit it, but must be allowed to make a few remarks on the cases, without suspecting the accuracy of the writer.

The first cases were two children, one at the breast, the other four years old. The inoculated part suppurated in the last only; but both sickened at the same time. Now supposing, for argument's sake, that in the youngest the inoculation failed, and that the child took the casual disease by inhaling the effluvia from the lancet, it will not be impossible to account for the two sickening at the same time, because it is most commonly found that infants at the breast pass through the disease under inoculation faster than those who are older; perhaps from being continually kept in a warm atmosphere, or nourished by one who at these times is generally taught to indulge in a more generous diet.

* See Memoirs of the Med. Soc. vol. v. p. 159.

In the two other cases, we are not informed of the respective ages of the children, but the one in whose arm the inoculation succeeded, sickened a day earlier than the other. This difference, though worth marking, certainly must not be considered as equal to what usually occurs between the inoculated and casual disease. On the whole, however, I think we may, without any breach of candour, wait the confirmation of this important question, by the appearance of other and similar cases.

There is one way in which we may be deceived, by suspecting lues venerea, without a previous local injury, that is, by absorption from a gonorrhœa, the inflammation of which has been slight, and the action of which has been superseded by one of those causes before mentioned [see page 91,] so slightly as to have escaped the notice of the patient. This is more likely, and I believe does often occur in females who are accustomed to increased secretions on those parts, without suspecting any contagious origin. Another source will be pointed out when we come to consider "diseases resembling lues venerea," two cases of which are anticipated in the second section of this chapter, p. 271, 272.

Mr. Hunter has remarked in another place, that it is most probable, when syphilis is induced by absorption from the primary sores, such an event happens early in the disease. This is most probable, because, after a time the constitution must become more habituated to it. On this account, I suspect, he greatly overrates the number who would show the secondary symptoms, even if no means were used to prevent them. This opinion is confirmed by the numbers we often see in the hospitals, in the worst stages of primary symptoms, without any secondary symptoms.

SECTION I.

Of the Nature of the Sores or Ulcers proceeding from the Lues Venerea.

In consequence of the blood being contaminated with real venereal pus, it might naturally be supposed, that the local effects arising therefrom would be the same with the original which produced them; but from observatiou and experiment I have reason to believe that this is not so.

In considering this subject, we may first observe, that local effects, from the constitution, are all of one species, that is, ulcers, let the surface upon which they appear be what it will, whether the throat

or common skin; which is not the case in the local application of the matter in gonorrhœa and chancre; for there I observed that it produced effects according to the nature of the surfaces. Now if the matter, when in the constitution, were to act upon the same specific principles with that which is applied, we should have gonorrhœas when it attacks a canal; sores or chancres when it attacks other surfaces; but it has never been yet known to produce a gonorrhœa from the constitution, though this has indeed been suspected. For some gonorrhœas, the origin of which has not been clear, and which have not easily given way to the common methods of cure, have been supposed to have arisen from the constitution. Whenever the disease affects the mouth and nose, it has always been looked upon as producing a true chancre; yet even here I find that such ulcers in their first appearance are very different from chancres. The true chancre, I observed, produces considerable inflammation, which of course brings on quickly suppuration, attended often with a great deal of pain; but the local effects of the constitution are slow in their progress, attended with little inflammation, and are seldom or ever painful, except in particular parts. However, this sluggishness in the effects of the poison is more or less according to the nature of the parts which become diseased; for when the tonsils, uvula, or nose, are affected, its progress is rapid, and the sores have more of the chancre in their appearance than when it affects the skin; yet I do not think that the inflammation is so great in them as in chancres that are ulcerating equally fast.

It has been supposed that even all the secretions from the contaminated blood could be affected so as to produce a like poison in them; and as the parts of generation are thrown in the way of receiving it, when fresh contracted, so they still lie under the censure of having it returned upon them from the constitution. Hence it has been supposed that the testicles and vesiculæ seminales may be affected by the disease; that the semen may become venereal, may communicate the disease to others, and, after impregnation, may even grow into a pocky child: but all this is without foundation; otherwise, when a person has the lues venerea, no secreting surface could be free from the state of a gonorrhœa, nor could any sore be other than venereal. Contrary to all which, the secretions are the same as before; and if a sore is produced by any other means in a sound part, that sore is not venereal, nor the matter poisonous, although formed from the same blood.

The saliva, in the case of a mad dog, being a natural secretion rendered poisonous, may be brought as an argument in contradiction to this theory; yet it is easily accounted for, and might be produced rather as an argument in support of it. In the dog, there is an irritation peculiar to the hydrophobia in the salivary glands; but the other and natural secretions of the same dog are not capable of giv-

ing this infection, because they are not susceptible of the same specific irritation.

The breath and sweat are supposed to carry along with them contagion. The milk of the breast is supposed to be capable of containing venereal poison, and of affecting the child who sucks it; but there are several reasons which overturn these opinions. First, we find that no secretion is affected by this poison, excepting where the secreting organs have been previously affected by venereal inflammation or irritation, or its specific mode of action. Again, if they were contaminated so as to produce matter similar to that of an ulcer in the throat, such matter would not be poisonous, nor possess a power of communicating the disease, as will be explained more fully hereafter. Further, true venereal matter, even when taken into the stomach, does not affect either the stomach or constitution, but is digested; as was evident in the two following cases:

A gentleman who had chancres which discharged largely, used to wash the parts with milk in a tea-cup with some lint, and generally let the lint lie in the cup with the milk. A little boy in the house stole the milk and drank it; but whether or not he swallowed the lint was not known. No notice was taken of this by the gentleman, either to the family or the boy; and attention, unknown to the family, was paid to the boy even for years, but nothing happened that could give the least suspicion of his having been affected either locally in the stomach or constitutionally.

A gentleman had a most violent gonorrhœa, in which both the inflammation and the discharge were remarkably great. He had also a chordee, which was very troublesome at night. In order to cool the parts, and keep them clean, he had a small basin of milk by the bed-side, in which, when the chordee was troublesome, he got up and dipped or washed the penis. This operation he frequently repeated during the night. Under such complaints he allowed a young lady to sleep with him. Her custom was to have by the bed-side a basin of tea to drink in the morning before she got up; but unfortunately for the lady, she drank, one morning, the milk instead of the tea. This was not known till she got up, which was five or six hours afterwards. I was sent for directly, and in the mean time she endeavoured to vomit, but could not. I ordered ipecacuanha, which proved slow in its operation. She vomited, but it was more than eight hours after drinking the milk and water, and what came up was nothing but slime, mucus, or water, the milk being digested. I was attentive to what might follow; but nothing uncommon happened, at least for many months.

It is also supposed, that a fœtus, in the womb of a pocky mother, may be infected by her. This I should doubt very much, both from what may be observed of the secretions, and from finding that even the matter from such constitutional inflammation is not capable of communicating the disease. However, one can conceive the bare

possibility of a child being affected in the womb of a pocky mother, not indeed from the disease of the mother, but from a part of the same matter which contaminated the mother, and was absorbed by her; and whether irritating her solids to action or not, may possibly be conveyed to the child, pure as absorbed; and if so, it may affect the child exactly in the same way it did or might have done the mother. This idea has been carried still further; for it has been supposed that such a contaminated child could contaminate the breasts of a clean woman by sucking her; the possibility of which will be considered presently. We may observe, that even the blood of a pocky person has no power of contaminating, and is not capable of giving the disease to another even by inoculation; for if it were capable of irritating a sound sore to a venereal inflammation, no person that has this matter circulating, or has the lues venerea, could escape having a venereal sore whenever he is bled or receives a scratch with a pin, the part so wounded turning into a chancre. For if venereal matter be on the point of the lancet, or on the point of the pin, the punctures must become chancres.

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This section is a little confused, by beginning with "the nature of the sores or ulcers proceeding from lues venerea or secondary symptoms," next hinting at their contagious property, and then proceeding to a detail of some consequences, or probable consequences, from the matter of primary sores. The three last and half the preceding paragraph, relating to the matter of primary sores, should have been included under that part of the work in which the different modes of primary infection are considered. The result of the inquiry, however, being altogether negative, renders it of too little importance to make any transposition necessary; but it is worth remarking how generally the error has prevailed, that Mr. Hunter denied that the fœtus in utero could be infected: yet in this passage we see him not only admitting such a possibility, but explaining how it might take place. More than one author has been at the pains to relate cases in which the fœtus in utero has been affected with small-pox, in order to prove, by analogy, the fallacy of Mr. Hunter's opinion concerning syphilis: not aware that Mr. Hunter was the first person who gave a satisfactory description of such a case, which is published in the Philosophical Transactions.

SECTION II.

Of the Matter from Sores in the Lues Venerea, compared with that from Chancres and Buboes.

When the matter has affected the constitution, it from thence produces many local effects on different parts of the body, which are in general a kind of inflammation, or at least an increased action occasioning a suppuration of its own kind. It is supposed, that the matter, produced in consequence of these inflammations, similar to the matter from a gonorrhœa or chancre, is also venereal and poisonous. This I believe till now has never been denied; and, upon the first view of the subject, one would be inclined to suppose that it really should be venereal: for first, the venereal matter is the cause; and again, the same treatment cures both diseases; thus mercury cures both a chancre and a lues venerea; however, this is no decisive proof, as mercury cures many diseases besides the venereal. On the other hand, there are many strong reasons for believing that the matter is not venereal. There is one curious fact, which shows it is either not venereal, or, if it be, that it is not capable of acting in some respects on the same body or same state of constitution as that matter does which is produced from a chancre or gonorrhœa. The pus from these latter, when absorbed, generally produces a bubo, as has been described; but we never find a bubo from the absorption of matter from a pocky sore; for instance, when there is a venereal ulcer in the throat, we have no buboes in the glands of the neck; when there are venereal sores on the arms, or even suppurating nodes on the ulna, there are no swellings of the glands of the arm-pit; although such will take place if fresh venereal matter is applied to a common sore on the arm, hand, or fingers. No swelling takes place in the glands of the groin from either nodes or blotches on the legs and thighs. It may be supposed that there is no absorption from such sores; but I think we have no grounds for such supposition. Its mode of irritation, or the action of the parts affected, is very different from what happens in the chancre, gonorrhœa, or bubo, being hardly attended with inflammation, which in them is generally violent.

It might be supposed, that a constitution, truly and universally pocky, is not to be affected locally by the same species of matter; but, from the following experiments, it would appear that the matter from a gonorrhœa or chancre is capable of affecting a man locally that is already poxed; and that matter from pocky sores, arising from the constitution, has not that power.

A man had been affected with the venereal disease a long time, and had been several times salivated, but the disease still broke out anew. He was taken into St. George's Hospital, affected with a

number of pocky sores; and before I put him under a mercurial course, I made the following experiment: I took some matter from one of the sores upon the point of a lancet, and made three small wounds upon the back where the skin was smooth and sound, deep enough to draw blood. I made a wound similar to the other three, with a clean lancet, the four wounds making a quadrangle; but all the wounds healed up, and none of them ever appeared afterwards.

This experiment I have repeated more than once, and with the same result. It shows that a pocky person cannot be affected locally with the matter proceeding from the sores produced by the lues venerea. But to see how far real venereal matter was capable of producing chancres on a pocky person, I made the following experiment:

A man, who had venereal blotches on many parts of his skin, was inoculated in sound parts with matter from a chancre, and also with matter from his own sores. The wounds inoculated with the matter from the chancres became chancres; but the others healed up. Here then was a venereal constitution capable of being affected locally with fresh venereal matter. This experiment I have likewise repeated more than once, and always with the same effect.

I ordered a person, at St. George's Hospital, to be inoculated with the matter taken from a well marked venereal ulcer on the tonsil, and also with matter from a gonorrhœa, which produced the same effects as in the preceding experiment; that is, the matter from the gonorrhœa produced a chancre, but that from the tonsil had no effect.

A woman, aged twenty-five, came into St. George's Hospital, August 21, 1782, with sores on her legs, and blotches over her body. Her husband gave her the venereal disease, December, 1781. Her symptoms then were, a discharge from the vagina, and a small swelling of the glands of the groin, which were painful. She had taken some pills supposed to be mercurial February, 1782, about three months after being infected, the discharge stopped: but the swelling, which had been gradually increasing ever since its first appearance, had now suppurated. She applied some ointment to it which was brought to her by her husband, and in two months it got well, that is, in April, 1782. After the bubo got well, a discharge from the vagina came on, for which she took more of the same pills she had taken before. After this time blotches came out over her whole body; some about her legs, under her arms, and upon her nipples, ulcerated.

Twins, which she brought forth at eight months, in March, 1782, at the time the bubo was healing, had blotches upon them at their birth, and died soon after.

Another girl, about two years old, whom she suckled, was also covered with blotches when she came to the hospital.

To ascertain whether her secondary ulcers were infectious, that is, whether the matter of them would have the specific effects of venereal matter, she was inoculated with some matter from one of her own ulcers, and with some matter from a bubo of another person

where mercury had not been used. This was done, September 18, 1782. September 19, the puncture, where she was inoculated with her own matter, gave her pain three hours from the time of inoculation, and the day following inflamed a little. The other had not then inflamed at all.

September 20, both the punctures had suppurated, and had the appearance of a small-pox pustule; they spread considerably, and were attended with much inflammation. That from her own matter healed with common poultices, and ointments without mercury; but the other, although treated in a similar way, continued in the same state, attended with much pain and inflammation.

September 22, the child was inoculated with some matter from one of its own ulcers, and with some common pus. The punctures both inflamed in a small degree; but neither of them suppurated.

The mother and the child went into the ward appropriated to salivation, October 21, 1782. The child took no mercury. It was supposed that its gums became a little sore; and the blotches got well.

During the time that the mother was using mercury, the ulcer from inoculation began to get well, and all her venereal symptoms disappeared. What shall we say to this case? Were the blotches venereal? There was every leading circumstance to make us think so; and our opinion was strengthened by the method of cure. If they were venereal, my opinion, that the constitutional appearances of the disease do not produce matter of the same species that produced them, is confirmed. If they were not venereal, then we have no absolute rule by which to judge in such cases.

It has been supposed and asserted from observation, that ulcers in the mouths of children from a constitutional disease, which constitutional disease has been supposed to be derived from the parent, have produced the same disease upon the nipples of women who had been sucked by them; that is, the children were contaminated either by their mother or father's having the disease in form of a lues venerea, of which I have endeavoured to show the impossibility. If, however, it were possible to contaminate once in this way, it would be possible to contaminate for ever.

How far the observations, upon which the before-mentioned opinion is founded, have been made with sufficient accuracy to overturn those which I made with a view to ascertain the truth, I know not. But, from a more accurate investigation of some of those cases, which were by most of the faculty called venereal, they appeared evidently not to be such. To say what they were, would lead us into the consideration of other diseases. The following case may lessen our faith in the histories of such as have been supposed to be venereal.

Before I describe the case, I shall first mention some of the circumstances leading to it.

A child was supposed to have infected its nurse with the venereal

disease. The parents had been married about twelve years, when this child was born. The father was a very fond husband, and the mother a mild and most affectionate woman. The father had a venereal gonorrhœa two years before he married, that is, fourteen years before the birth of the child. About nine months after marriage they had a child, and afterwards a second, both of whom were extremely healthy at birth, and still continue so. The mother fell into a weakly state of health, and miscarried of her third child at the end of five months. The fourth child was born at seven months, but was puny, weak, and had hardly any cuticle when born. It was immediately after birth attacked with a violent dysentery. It died in a few days, and was opened by me. The whole skin was almost one excoriated surface. The intestines were much inflamed and thickened.

With her fifth child, from great care, she went eight months, and it was now hoped that she might go the full time, and also that this child might be more healthy than the former. When she was delivered, the child was very thin, but free from any visible disease.

Some days after birth it became blistered in a vast number of places on its body, which blisters were filled with a kind of matter, and, when they broke, discharged a thinnish pus. The inside of the mouth was in the same condition. Bark was given to the nurse. Bark in milk was given to the child by the mouth; and it was fomented with a decoction of bark; but, in about three weeks after birth, it died.

Some weeks after the death of the child, the nurse's nipple, and the ring round the nipple, inflamed, and sores or ulcers were formed with a circumscribed base.* They were poulticed, but without benefit. She also complained of a sore throat; but the sensation she complained of was so low in the throat that no disease could be seen. A swelling took place in the glands of the arm-pit, but they did not suppurate. She applied to a physician, and, according to the account which she gave, he pronounced that her disease was venereal, and that she had given suck to a *foul* child; and he ordered ten boxes of mercurial ointment to be rubbed in on her legs and thighs, eight of which had been used when I saw her; and then her mouth was become extremely sore.

These circumstances came to the ears of the family, and an alarm took place. The husband went from surgeon to surgeon, and from physician to physician, to learn if it was possible for him to have the disease for fourteen years, and never to have perceived a single symptom of it in all that time: or if it was possible he could get children with the disease now, when the two first were healthy. He also wanted to know, if it was possible for his wife to have caught the disease from him under such circumstances; and also, if she could breed children with this disease, although she herself never

* She had but one breast that gave milk.

had a single symptom of it. If we take all the above-mentioned circumstances as facts, the conclusion is, that it was impossible there could be any thing venereal in the case; but as they could not be absolutely proved to be facts, there must remain a doubt in the mind, a something still to be proved.

Now let us consider the result of the case. The nurse's mouth was become extremely sore from the mercury when I first saw her. I desired that Mr. Pott might see her along with me; and it was the opinion of us both, that the sores on the nipple, and around it, were not venereal; but it was alleged, that, as she had taken mercury, their not having a venereal appearance now was owing to that cause. The bark was given, as also the sarsaparilla, but the sores did not heal, nor did they become worse; nor was the mouth better by leaving off the mercury. I ordered the hemlock; but that appeared to have no effect. In the mean time eruptions broke out on the skin. The skin of the hands and fingers peeled off; the nails of both fingers and toes separated; and sores formed about their roots, which were all supposed (by many) to be venereal. But some of them appearing while the constitution was full of mercury, and others disappearing without any further use of that medicine, I judged that they were not venereal. We suspected that her mode of living was such as contributed greatly to the continuance of her first complaint, and gave rise to the new ones; for she looked dejected and sallow. She was desired to go into an hospital, which she did. As soon as she got into a warm bed, and had good wholesome food, she began to mend, and in about five or six weeks she had become fat and almost well; the sore only about the root of the nail of the great toe had not healed: but that appeared now to be owing to the root of the nail being detached, therefore acting as an extraneous body. She came out of the hospital before this toe had got well; and, returning to her old poor mode of living, she had a return of the soreness in the mouth; however, she mended at last without the use of more mercury.

This case I shall further consider when on diseases resembling the venereal.

The following case will further prove that we often suspect complaints to be venereal when they really are not.

A gentleman had for some time blotches on his skin; the face, arms, legs, and thighs, were in many places covered with them; and they were in their different stages of violence. In this situation he applied to me; and I must own they had a very suspicious appearance. I asked him what he supposed these blotches were; he said he supposed them to be venereal. I asked him when he had a recent venereal complaint? He told me not for above twelve months. I then asked him how long he had had the blotches? and the answer was, above six months. As this was a sufficient time for making observations upon them that might ascertain better than the mere appearance

what they were, I asked him if any of the blotches that came first had disappeared in that time; and he said many; I desired to see where those had been; and on examination I found only a discoloured skin, common to the healing of superficial sores. I then declared to him, that they were not venereal; for if they had arisen from that source, none of them would have disappeared. He now informed me, that he had been taking mercury; and this information obliged me to have recourse to further inquiries; and I therefore asked him, whether, while he was taking mercury, many of the first got well? The answer was yes. And was the cure of those imputed to mercury? The answer was again in the affirmative. I then asked him, if, while he was taking the mercury, which appeared to have cured some, those that now remained arose? Yes. My next question was, how long had he taken mercury? He said for six months. I then declared they were not, nor ever had been venereal. I then asked him, what was now the opinion of his surgeon? He said, that his opinion still was, that they were venereal, and that he should go on with the mercury. I advised him to take no medicines whatever; to live well, avoiding excess, and to come to me in three weeks; which he did, and then he was perfectly well, only the skin was stained where the blotches had been. He now asked me, what he was next to do? I told him he might go to the sea and bathe for a month. This he did, and returned well and healthy, and has continued so.

That the matter from secondary sores is different from primary might have been inferred from the difference in the appearance and progress of the two. It was, however, presumed, as a matter of course, that the secondary matter was contagious. The proof of the contrary, being founded on experiment, will not be questioned by those who are acquainted with the accuracy of the author, or the publicity with which the experiments were performed.

Two cases of diseases resembling lues venerea are here introduced, merely to show the fallacy of many others, on which the opinions have been founded of the infectious nature of matter from secondary sores. The subject of diseases resembling lues venerea is considered more at large hereafter.

SECTION III.

Of the local Effects arising from the Constitution considered as critical—Symptomatic Fever.

How far the eruptions or local effects of this disease, arising from the constitution, are an effort of nature to clear herself of this disease, is not certain. I observed, that a gonorrhœa might be produced by a general law in the animal economy, by which it endeavours to relieve itself of the irritation by producing a discharge; and that in chancres a breach is made in the solids for the same purpose, although this purpose is not answered in either, nature not having a provision against this poison. But how far a similar attempt takes place in a lues venerea I do not know; and if it was upon the same principle, the same reason might be expected to be given, why the constitution is not capable of relieving itself in the present instance that I gave, when treating of the primary affections, because in this, as it was in the other, the matter formed might be supposed to be venereal; and therefore, by being absorbed by the very surface which produced it, as in a chancre, it might keep up the constitutional disease. If this were really the case, it would be very different from many other specific diseases; for the reason why many specific diseases cure themselves is, that the irritation cannot last beyond a stated time; and also that in many, the patient is never susceptible of the same disease a second time, as in the small-pox. If this was not the case, a person once having the small-pox would always have them; for, according to one supposition, that absorption of its own pus keeps up the disease; and according to another, that the irritation never wears itself out, the patient would either never be free, or have them repeated for ever; for his own matter would give the disease a second time, a third time, and so on.* But the venereal matter, when taken into the constitution, produces an irritation which is capable of being continued independent of a continuance of absorption; and the constitution has no power of relief, therefore a lues venerea continues to increase. This circumstance is perhaps one of the best distinguishing marks of the lues venerea; for in its ulcers and blotches it is often imitated by other diseases, which, not having this property, will therefore heal and break out again in some other part. Diseases in which this happens, show themselves not to

* This circumstance alone is a strong proof that people cannot have the small-pox twice, at least at any distance of time between, if they had fair eruptions the first time; for if the constitution was not so altered as not to be susceptible of this irritation a second time, a person would have them immediately upon the going off of the first.

be venereal; however, we are not to conclude, because they do not heal of themselves, and give way only to mercury, that therefore they are venereal, although this circumstance joined to others gives a strong suspicion of their being such.

When the parts are contaminated by the venereal poison, we commonly find fever, restlessness, or want of sleep, and often headach; but I believe that these symptoms are rather peculiar to the disease, when the second order of parts, the periosteum and bones, are affected, although they are sometimes found of the first. Do these symptoms arise from the local irritations affecting the constitution? And are they merely sympathetic? Whatever the immediate cause may be, they never go off till the local irritations are removed. This fever at first has much the appearance of the rheumatic fever; and after a time it partakes a good deal of the nature of the hectic.

These symptoms often take place independent of, or unattended by, any local action; and when that is the case it becomes very uncertain what the disease is; for in cases not admitting of clear proof we must rest on the concurrence of circumstances. Many of these symptoms give way to mercury. This is probably the only concurring circumstance attending this complaint that is any proof of its being venereal.* It rather, however, appears to militate against this idea, that, for the most part, a much smaller quantity is sufficient for the cure of such symptoms than what is necessary for the cure of local complaints. But if mercury always cured them, it would not be very material what they are called. It is worthy of consideration, however, how far the venereal poison, when in the constitution, does or does not always produce local effects. That it in general does, we are certain; but whether it is ever a cause of constitutional symptoms simply, such as loss of appetite, wasting, debility, want of sleep, and fever, at last becoming hectic, is uncertain; and it is also uncertain whether it is ever capable of producing local actions from irritations only, without an alteration of the structure of the parts irritated, as cough, secretion from the lungs, purging, headach, sickness, pains in different parts of the body like rheumatic pains, but not from an alteration of the structure of the part taking place, as beginning nodes. If such effects take place, we must in such a case rely entirely on the history of the disease, and pronounce according to probability. Such complaints come oftener under the management of the physician than the surgeon, to whom I would recommend a particular attention to this.

The fever in consequence of the venereal irritation, like most other fevers, deranges the constitution, which thereupon suffers agreeably to its natural tendency. It is capable of producing glandular swell-

* Here it is to be understood, that the circumstance of a previous gonorrhœa or chancre is not to be considered as strong evidence.

ings in many parts of the body, and probably many of the nodes that arise in the time of this fever may proceed from the fever, and similar to every such effect, from whatever cause, it does not partake of the disease which produced it, for it is not venereal: it only takes place in constitutions very susceptible of such action where the predisposing cause is strong, and probably at seasons most fitted to produce it, only waiting the immediate cause to put them into action, such will and do go away of themselves when the predisposing cause ceases, such as season.

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In this section, the author considers the sympathetic fever, or, as he calls it in the Introduction, "the whole constitution sympathizing with a local disease;" and points out the manner in which it becomes first the symptomatic, and afterwards the hectic fever.

It may be necessary to remark, that all morbid poisons, however violently the constitution may sympathize, are only local in their action. The small-pox, and other exanthemata, are confined to parts of the integuments and throat; lues venerea to the same parts, and to certain bones and their periostea. On the commencement of these local actions, the constitution sympathizes. In other words, such new actions can scarcely take place, without in some measure affecting the general health. In the exanthemata this fever is called symptomatic, that is, a symptom of the change which is taking place. In the commencement of lues venerea, it may be called by the same term; but if the disease continues, an attempt will be made by the constitution to relieve itself. This attempt, like all new actions, will show itself by such a change in all the functions as is denominated fever. The paroxysm subsides, but the irritation still remaining, the same attempt at relief is renewed; that is, the fever returns, and this return of fever continues at intervals, somewhat uncertain, till the disease is subdued by art, that is, till a mercurial irritation is excited, sufficient to supersede the venereal. Hence the first paroxysm of fever that is excited may be called symptomatic, inasmuch as it is a symptom of the approaching local action: but the subsequent paroxysm occurs so often as to be very properly styled habitual or hectic.—See the Introduction.

SECTION IV.

Of the local and constitutional Forms of the Disease never interfering with one another.

I OBSERVED, when treating of the gonorrhœa and chancre, that, when occurring in the same person, the one neither increases the symptoms nor retards the cure of the other. And it may also be observed, that the chancre or gonorrhœa, and the constitutional form of the disease, meeting in the same person, do not interfere with each other, either in their symptoms or cure.

To explain these effects more fully, let me observe, that if a man has a gonorrhœa, and a chancre appears some days after, the chancre does not either increase or diminish the gonorrhœa. Again, if a man has either a gonorrhœa, a chancre, or both, and a lues venerea ensue in consequence of either of these, neither the gonorrhœa nor chancre is affected by it. If a man has a lues venerea, and gets either a gonorrhœa or chancre, or both, neither of them affects the lues venerea, nor are their symptoms the worse. Nor is the cure of either, singly, retarded by the presence of the other; for a gonorrhœa is as easily cured when there are chancres, as when there are none, even although the chancres are not attempted to be cured; and a chancre may be cured locally independent of the gonorrhœa. Further, a gonorrhœa, chancre, or both, may be as easily cured when the constitution is poxed either by them, or previous to their appearance, as when the person is in perfect health; but the chancre has this advantage, that the constitution cannot be cured without its being likewise cured.

The gonorrhœa and chancre indeed so far influence one another, as the one can be in some degree a cause of prevention of the other, as has been already observed; but I believe that this circumstance does not assist in the cure of either: yet I could conceive it might, each acting as a derivator to the other, without increasing its own specific mode of action.

SECTION V.

Of the supposed Termination of the Lues Venerea in other Diseases.

THIS disease seldom or ever interferes with other disorders, or runs into, or terminates in any other, although it has been very much

accused of doing so; for a termination of one disease in another, as I understand the expression, must always be a cure of the one terminated; but the venereal disease never terminates till the proper remedy is applied, and therefore never can run into any other disease.

That venereal complaints may be the cause of others, I think is very probable. I have seen a chancre the immediate cause of an erysipelatous inflammation: but the venereal malady did not terminate in the erysipelatous inflammation; for, if it had, the chancre would have been cured; nor was the erysipelatous inflammation venereal; the chancre only acted here as a common irritator, independently of the specific quality of the disease as a cause. I have known a venereal bubo become a scrofulous sore as soon as the venereal poison was destroyed by mercury; this was not a venereal terminating in a scrofulous affection; for in such a view the scrofula must have cured the venereal. The venereal disease would seem only to partake of the nature of such disorders as the constitution was previously disposed to, and may excite into action the causes of these disorders. The same observation and mode of reasoning holds equally good with respect to other diseases. The common symptoms, however, of the lues venerea, though in some degree according to the constitution, are not so much so as either in the chancre, or the gonorrhœa; for the lues venerea is attended with very little inflammation, which in general partakes much more of the nature of the constitution than any other diseased action.

SECTION VI.

Of the specific Distance of the Venereal Inflammation.

I HAVE already observed, that many specific diseases, as also those arising from poison, have their local effects confined to certain distances, which I have called their local specific distance; and it would appear from observation, that the venereal irritation and inflammation, of whatever kind it may be, is guided by this principle, for it seldom extends far beyond the surface that receives it; the neighbouring part not having a tendency to sympathise, or run easily into this kind of inflammation. This is the reason why we find a gonorrhœa for weeks confined to one spot in the urethra in men, and for months to the vagina in women, not extending further in either. In chancres also the inflammation is confined to the seat of the sore, without becoming so diffused as when from common accidents. As a further

proof of this fact, we find it is also confined to the glands of the groin, in cases of buboes, till matter is formed in them; which matter acts as a common irritator, and the specific is in some degree lost, and then the inflammation becomes somewhat more diffused, as happens in common inflammation. We also see that the same thing happens in venereal ulcers when they arise from the constitution: their size is at first but small, and they are merely local; but as the disease increases, the size increases, but still they remain circumscribed, not becoming diffused. Perhaps all poisons and specific diseases agree in this property of having their inflammation limited and circumscribed in a manner peculiar to themselves; for we find that the inflammation of the small-pox, measles, and chicken-pox, is each circumscribed in its own way. From hence it must appear, that the human body in general is not so susceptible of specific irritations as it is of the common, or what may be called the natural. But we must also consider, that the common inflammation in very healthy constitutions has its specific distance, although not so determined or circumscribed as is that of the specific in such constitutions; therefore we may reasonably suppose, that such healthy constitutions are the furthest in disposition from the inflammatory action; and we may also suppose still more so from the specific. What would appear to strengthen this idea is, that when the constitution is such as readily goes into inflammation, the more readily does the inflammation spread, every part being susceptible of such action; and we find that in many the specific also spreads, although not in so great a degree, from which we may suppose that the specific is always a more confined mode of action. I have suspected that when the body was disposed to increase the inflammation beyond the specific distance, it was of the erysipelatous kind, as was mentioned before, and which is to be attended to in the cure.

We have already noticed Mr. Hunter's remarks on the specific distance of the inflammation induced by morbid poisons. In this passage he enters more on the subject, and shows that common inflammation is always circumscribed in proportion to the powers of the constitution in resisting disease.

SECTION VII.

Of the Parts most susceptible of the Lues Venerea—Of the Time and Manner in which they are affected—What is meant by Contamination, Disposition, and Action—Summary of the Doctrine.

When I assigned the causes for so great a difference in the effects of the same poison upon two different surfaces, as forming the gonorrhœa and chancre, I then said I did not know whether similar surfaces in every part of the body were equally susceptible of this irritation, having but few comparative trials of the direct application of the poison to other parts besides those of generation. But it would appear that some parts of the body are much less susceptible of the lues venerea than others; and not only so, but many parts, so far as we know, are not susceptible of it at all. For we have not yet had every part of the body affected; we have not seen the brain affected, the heart, stomach, liver, kidneys, nor other viscera; although such cases are described in authors. But as there are different orders of parts respecting the times of the disease appearing, and as the person commonly flies to relief upon the first or second appearance, it may be supposed that the whole disease in the parts actually affected is cured before the other parts have had time to come into action, which will therefore be cured under the state of a disposition only, if we can conceive that a cure can take place before the parts have come into action. But if the parts visibly affected are cured, while those only disposed are not, and afterwards come into action, they would form a second order respecting time; and if these again are cured, and other parts under a disposition should come into action, such would form a third order of parts respecting time. The lungs have been believed to have been affected with the venereal disease, both from the circumstances preceding the complaint, and from the complaint itself being cured by mercury; and their being affected when the other viscera are not, may arise from their being in some degree an external surface, as will be explained hereafter.

It is this form of the disease, therefore, that gives us the comparative susceptibility of parts both for disposition and action. For we must suppose that all parts are equally and at once exposed to the action of the poison; but though there may be various degrees of susceptibility, it will be sufficient for practice to divide them into two, under the following appellations of *first in order*, and *second in order*, to which we may add the intermediate.

Whether the parts that are really first affected are naturally more easily affected by this kind of irritation, or that some other circumstance which belongs to these parts is the cause, cannot be absolutely

determined; but the matter being attentively considered, it would appear to be owing to something foreign to the constitution, and also not depending on the nature of the parts themselves; for if we take a view of all the parts that are first affected by this disease, when arising from the constitution, which I shall suppose are the parts most susceptible of it, we shall see that in the recent state of the disease these parts are subject to one general affection, while there are similar parts of the body not affected by this disease, and not subject to this general affection. Probably the parts second in order may naturally be as susceptible of the irritation as those first in order; but not being under the influence of an irritating cause, they are later in coming into action; and there are also probably other causes in the nature of the parts themselves, such as being indolent in all their actions, and of course indolent in this, therefore later in coming into action. However, it is not universally the case that the parts which I have called first in order are always so; on the contrary, we find that this order is inverted in some cases, although but rarely. We cannot suppose that this difference arises from any active power in the poison, nor any particular direction of it, but from properties in the parts themselves; for it may be allowed us to suppose, that, when this matter has got into the circulation, it acts on all parts of the body with equal force; that is, it is not determined to any one part more than another by any general or particular power in the animal machine; nor is the nature of the poison such as will fall more readily on one part of the body than another, when they are all in similar circumstances. That some parts therefore are more readily affected by it than others, owing to circumstances which are no part of the animal principle, nor of the poison; and also that some parts of the body have a greater tendency to be irritated by it in others, must be allowed.

The parts that are affected by this form of the disease when in its early stage or appearance, which I have called first in order, are, the skin, tonsils, nose, throat, inside of the mouth, and sometimes the tongue.* When in its later state, the periosteum, fasciæ, and bones, come into action, and these I call *second in order of parts*. Perhaps the bones come into action from the membrane being affected.

That we may be able to account in some measure for these similar effects as to time in dissimilar parts, such as the skin and the tonsils, two very different kinds of parts, let us consider in what circumstance they agree, and why they are more susceptible of this irritation

* The tongue is very subject to have ulcers formed on it, especially on its edges. They are seldom very large, nor are they often either very foul or have a hard basis: these are commonly supposed to be venereal; but I believe they seldom are. I do not know whether I am, or not, acquainted with the distinguishing marks. I never saw but one that I suspected to be either venereal or cancerous, from its foul look and its hard basis. It gave way readily to mercury, therefore I supposed it to be venereal.

than those parts that probably are naturally as much so, although they do not receive it so readily, such as the periosteum, fasciæ, and bones.

The most remarkable circumstance perhaps to which the external surface is exposed, and to which the internal is not, is cold, or a succession of different degrees of cold. For we may observe, in general, that the atmosphere in which we live is colder than the human body* in its usual temperature, therefore the skin, &c. is continually exposed to a cold greater than what the internal parts are; and we find that all those parts which are most exposed to this, admit of being much more easily affected, or come more readily into action in this disease than the others.

It is certain that cold has very powerful effects on the animal economy. It would at least appear to have great powers of disposing the body for receiving the venereal irritation, and going readily on with it.

From this idea we may account for several circumstances respecting this disease, as the mouth, nose, and skin, being the most frequently affected, since they are rendered most susceptible of it from the causes before mentioned, and for the same reason come very readily into action. If this be a true solution, it also accounts for those second in order being affected; for if the poison has contaminated parts which are both first in order of susceptibility and time of coming into action, it is natural to suppose that those parts which are most predisposed, as the external surfaces, shall come first into action; the parts exposed to cold, in the next degree, forming the second in order, come next into action, such as bones, periosteum, &c. but even in them it is not in every bone alike, or every part alike of any one bone; for it appears first in those that are in some measure within the power of being affected by sympathy from application of cold to the skin: we find that when the deeper seated parts, or the parts second in order, come into action, such as the periosteum or bones, it is first in these that are nearest the external surface of the body, such as the periosteum or bones of the head, the tibia, ulna, bones of the nose, &c. nor does it affect these bones on all sides equally, but first on that side next the external surface. However, it would appear that in the bones there is another cause besides the vicissitudes of weather, why this disease should attack them; for the periosteum of bones, or bones themselves, are not liable to be diseased on all parts in proportion to the distance from the skin, the periosteum which covers the ankles, or many of the joints, being as near the external surface as many other parts of the periosteum or bones that are affected. The nature of the bones themselves, which are covered by that

* It is to be understood, that this cannot hold good as an universal principle; it can only take place in the temperate and frigid zone; for in the torrid the heat of the surrounding atmosphere is somewhat greater than that of the human body.

periosteum, is somewhat different; they are softer in their texture, therefore they would seem to be affected in proportion to their nearness to the skin, and hardness of the bones jointly; which would incline us to believe, that the bones are more easily affected, and rather have some influence upon the periosteum in this disease, than the periosteum upon them; and this susceptibility in the hard bones would appear to be in proportion to their quantity of earth and exposure to cold combined.

It may be objected to this theory, that the fore part of the tibia, &c. cannot be really colder than the back part; but then it may be supposed, that it is not necessary that the part should be actually cold, but only within the power of sympathy. For a part that is not actually cold is capable of being affected from its sympathising with a cold part in the same manner as if actually cold, although perhaps not in so great a degree, and therefore requires a longer time to come into action than if it were actually cold. We find, for example, that when the skin is actually cold, the muscles underneath are thrown into alternate action, so that we tremble, or our teeth chatter with cold, and yet it is possible that these muscles may not be colder at this time than any other; although it is most probable that they are really colder,* which will assist the power of sympathy. So far as cold can affect the actions of parts, so far also will the sympathising part be affected in proportion as it is nearer to the parts actually cold; therefore, the deeper seated parts in the veneral disease are later in coming into action.

The actual cold parts come first into action, then those that are less so, and next those that are nearest in sympathy, and so on, except the parts first in order of susceptibility have been only partially cured, and then their recurrence may correspond with the action of those that are second in order of susceptibility, and all the parts will come into action together. What would seem to strengthen this opinion is, the different effects that arise from different climates: in warm climates the disease seldom or never rises to such a height as in cold climates; it is more slow in its progress, and much more easy to cure, at least if we may give credit to the account we have received of the disease in such climates.

Whether the difference in the time of appearance between the superficial and deeper seated parts in warm climates is the same as in cold ones, I do not know; but from the above theory it should not be so great in the warm as in the cold climates.

Besides the causes already mentioned, it would appear that there are others by which the lues venerea may be brought sooner into action than it otherwise would be if left entirely to the nature of the constitution; for I think I have seen cases where fever has brought

* See Philosophical Transactions, vol. 68, part i. page 7.

it into action when the disposition had been previously formed. Like most other diseases to which there is a susceptibility or disposition, we find that any disturbance in the constitution shall call it forth: scrofula, gout, and rheumatism, are often called forth in this way.

Having said that the deeper seated parts of the body come into action later than those that are superficial, I shall now observe, that when the lues venerea has been cured so far as only to remove the first actions, but not to eradicate the disposition in the deeper seated parts, as has been explained, under such circumstances of the disease it never attacks again the external, or the parts that were first affected, but only the deeper seated parts, which are second in order of time. The reason is, that the deeper seated parts had not been affected at the time of the cure of the first. The following cases, selected from a great number of similar ones, will illustrate the doctrines we have laid down.

In January, 1781, A. B. had connection with a woman, and two days after perceived an itching in the glans: at the end of four days he found chancres upon the prepuce. He took about twenty grains of calomel, and then applied to a surgeon, under whose care he remained three months, that is, till April. He thought himself nearly well, and went into the country, taking a few pills with him, and at the end of another month believed himself perfectly cured. Three months after, that is, in August, he caught cold, and had considerable fever, for which James's powders were given. Soon after this, spots of a copper colour appeared upon his legs, and he had violent pains in his shin bones. By the order of a country surgeon, he rubbed in about an ounce of mercurial ointment, and had a slight spitting; the pain ceased, the spots disappeared, and in a month he again conceived himself to be well. This was in October, 1781. In June, 1782, he had the influenza: about a fortnight afterwards his left eye inflamed, and he had a pain in the head, and a noise in his ears. Five days afterwards his throat became sore. Three weeks after the inflammation of his eye, several pustules made their appearance near the anus. These symptoms remained till the 21st of August, when he came into St. George's Hospital. He rubbed in strong mercurial ointment till his mouth became sore; he sweated very much; the pain in his head remained, but the complaint in his eye, and about the anus, together with the sore throat, were totally removed.

It appears that, in this case, some additional power was required to dispose the body more readily to exhibit venereal symptoms. That cold has a strong power of this kind we have allowed, which appears in this case to have been the first immediate cause; but a fever seems to have been equally effectual in producing the second return of the symptoms.

Here was the venereal disposition in the constitution from April, 1781, the time he was cured of the local complaint, till June, 1782,

fourteen months after; and then it re-appeared eleven months after that, which periods might have been longer, if it had not been called forth by the two circumstances of cold and fever.

Let us consider how far this case corresponds with the opinion of the action being easier of cure than the disposition. The first action, that is, the chancres, were perfectly cured by the quantity of mercury he took at first, for they never recurred; but the venereal matter had produced the disposition in the constitution, which was not cured by the same quantity of mercury, for blotches appeared three months after; but all the parts that had taken on the disposition at that time had not then come into action; therefore only the parts which had come into action were cured by the second course of mercury; and the other parts which had not yet taken on the action, went on with the disposition till the influenza (which happened eleven months after) brought them into action. The first class of pocky appearances were perfectly cured by the second course of mercury, as the local had been cured by the first; for they never re-appeared, not even with the second. The second set of pocky symptoms, we have observed, appeared to be perfectly cured by the third course of mercury. How far there may be a third set of pocky symptoms to come forth, time can only tell.

This case further proves, that sometimes the second set of symptoms appear first, and the first second; and also shows the difference in times between the first pocky appearances after the healing of the local, and between the second appearance of the symptoms after the healing of the first.

A gentleman had a chancre in May, 1781: in the same month of the next year, 1782, he had a gonorrhœa; and, in May, 1783, he had a sore throat. He had no connection with any woman from September, 1782, till May, 1783, which was a fortnight before his throat became sore, and had had no immediate local complaints.

When I saw the throat first, I said it was not venereal; and he, being rather of a hectic habit, was desired to go to Bristol. When at Bristol, an ulcer appeared at the root of the uvula, which made him immediately come back to London. When I saw this ulcer I said it was venereal. He now went through what I supposed was a sufficient course of mercury, and all the venereal symptoms appeared to be cured.* He went into the country about the month of August; and about the beginning of January, 1784, viz. four months after the supposed cure, he felt a pain, together with a swelling in his shin bones, for which he went through a course of mercury, which removed both the pain and the swelling.

In this case we have every reason to suppose that the disposition

* I may remark here, that only the venereal ulcer got well by the mercury, for the former excoriation of the throat continued, but was afterwards cured by bark and sarsaparilla.

had taken place in the bones, or their coverings, from the same cause that affected the uvula; but the uvula suffered first, being of the first order of parts. Whether this was really the case or not, we must allow that in the parts second in order, the disposition, and not the action, did exist at the time when the disease in the uvula came into action, as also at the time when he went through a course of mercury sufficient to cure the uvula; we must also allow that the disposition was not removed by the quantity of mercury which was capable of removing the disease in the uvula. From all which I would draw the following inferences in confirmation of the preceding doctrine: first, that the parts about the throat are capable of assuming the action sooner than the bones. Secondly, it is probable that mercury can cure the action only, and not the disposition; and thirdly, that the venereal pus is not present in the circulation while the secondary actions take place; for if it were, the parts first in order would stand an equal chance of being again contaminated, and of coming into action a second time; supposing the venereal matter still to exist in the constitution after the parts first thrown into action are absolutely cured, so as to contaminate the parts that are second in order of action, we should certainly have the parts first in order take on the disease a second and even a third time, and so on; while the second or third in order would be going on and only coming into their first action; and therefore we might have those that are first in order, and those that are second in order, in action at the same time. This might be carried still further, for as it is possible for the parts first in order of susceptibility to have the disease a second time, while the parts second in order are under the influence of the first infection, those first in order may be contaminated a second time from a new or fresh infection; which would be a lues venerea upon a lues venerea, a case which certainly may happen. If the matter does really continue in the constitution, it would be natural to suppose that the parts most easily affected by it would remain so long as the poison remained. It may indeed be alleged, that parts which have already been accustomed to this irritation and cured, are rendered by that means less susceptible of it.

If the poison were still capable of circulating after its visible effects were cured, then mercury given in the time of a chancre can be of little service, as it can only assist in the cure of the chancre, but cannot preserve the constitution from infection, which does not agree with experience; for practice informs us, that not one in fifty would escape the lues venerea if the chancre were only cured locally; so that mercury has the power of preventing a disposition from forming, and therefore is necessary to be given while we suppose absorption going on, or while there is matter that may be absorbed.

Mercury, prior to the action, will not remove the disposition, and of course will not hinder the action coming on afterwards; however, it is possible, and most probable, that the medicine while it is present will hinder the action taking place; so that no venereal complaints

will take place under the course of mercury, although the parts may be contaminated.

This is not peculiar to the venereal disease, but common to many others, and in some it may be reversed; for there are diseases whose disposition can be cured, and therefore the action prevented, by such medicines as would rather increase the action if given in the time of it.

The parts first affected are more easily cured, according to our method, than the parts second in order. A part once perfectly cured, is never irritated again by the same stock of infection, though probably some other parts in the constitution are still under the venereal irritation. If the facts stated be just, the circumstance of the disease appearing to leave the parts first attacked, and attacking the secondary parts, is easily accounted for. It is no more than the first parts being cured while the secondary are not, and of course going on with the disease, the first remaining well.

If this mode of accounting for these circumstances be just, it proves two things; first, a former assertion, that this disease, in the form of lues venerea, has not the power of contaminating parts, not already under its influence, even in the same constitution; secondly, that the venereal poison is not circulating in the blood all the time the disease is going on in the constitution; so that most probably the poison only irritates when just absorbed, and is soon expelled or thrown out in some of the secretions.

The above account of the lues venerea may be reduced to the following heads:

First, that most parts, if not all, that are affected in the lues venerea, are affected with the venereal irritation at the same time.

Secondly, the parts exposed to cold are the first that admit the venereal action; then the deeper seated parts, according to their susceptibility for such action.

Thirdly, the venereal disposition, when once formed in a part, must necessarily go on to form the venereal action.

Fourthly, that all parts of the body, under such disposition, do not run into action equally fast, some requiring six or eight weeks, others as many months.

Fifthly, in the parts that come first into action, the disease goes on increasing without wearing itself out, while those that are second in time follow the same course.

Sixthly, mercury hinders a disposition from forming, or, in other words, prevents contamination.

Seventhly, mercury does not destroy a disposition already formed.

Eighthly, mercury hinders the action from taking place, although the disposition be formed.

Ninthly, mercury cures the action.

These principles being established, the facts respecting the cure are easily accounted for.

Mr. Hunter having given a general summary of his doctrine, at the conclusion of this chapter, I shall confine myself to a few remarks, in the order in which he has placed each article.

Soon after the disease appeared in Europe it was discovered, that after a chancre or gonorrhœa was cured, the disease would sometimes appear in remote parts of the body. Even when those parts were cured, it unhappily proved that there was no certainty fresh symptoms might not appear, which must be cured like the former. The effect of this conviction was to produce a general alarm, and those who had been once infected, fancied they could never after be free; nay, even their children were supposed to be contaminated. This error was not confined to the patient. Its influence on the practitioner was such, that many thought it necessary to continue the use of mercury for a great length of time after the first local symptoms were cured, in order, as they expressed it, to *eradicate the disease.* This figurative expression, if not the cause of, probably tended to perpetuate an erroneous practice. Still, however, it was found, in spite of the most cruel and repeated salivations, that the disease would return. In the mean while they saw others who had been infected, and were cured without difficulty, and without any returning symptom. The consequence was, that the most enlightened practitioners, among the rest, Boerhaave, Astruc, and Sydenham, acknowledged their incapacity of confining the disease to any laws, whilst more superficial writers either evaded the question, or boasted means of security, which no one found more successful than the former.

It was reserved for Mr. Hunter to unravel this difficulty. By a patient attention to every action as it arose, and every form that it induced, he discovered the laws by which the disease and its remedy were governed. Not contented with this, he reduced, as we shall presently see, the whole to experiment, and found a result exactly corresponding with what he had discovered from all those disjointed facts which he had marked in the course of a long and diligent practice.

Like all the other laws of nature, when discovered, this was found simple, and in perfect analogy with others, as far as the phœnomena agreed: but so long had the world been amused with figurative expressions, so much was their indolence captivated with the phantom of a disease which assumed all shapes, was governed by no laws, and which, when once introduced into the blood, could never be *eradicated;* that to this day there are many who refuse their assent to Mr. Hunter's doctrine, still more who fancy themselves incapable of understanding it; and most of all, who refuse to collect their attention long enough to go through the whole detail.

The first proposition is, that most parts of the body, if not all, affected with lues venerea, are affected with the venereal irritation at the same time.

This is proved by those cases in which the first local symptom or chancre has been cured early, yet the disease has appeared afterwards in the throat, skin, and bones. These are by far the most numerous cases, because most people apply early for relief. If a chancre has been attended to soon after its appearance, and in about six weeks after the mercurial irritation, by which it was cured, blotches appear on the skin, if these are instantly attended to, and some months after they have been cured in the same way, the bones should take on the disease—the fair inference is, that the cause of all this mischief is to be traced to absorption, during the open state of the chancre. The matter absorbed from it in the course of its circulation was probably applied equally to every part, but only those parts which afterwards showed the disease felt the irritation, so as afterwards to take on the diseased action. This irritation Mr. Hunter called contamination. The distance of time before the diseased action is taken up is considerable, because all the actions in syphilis, or the secondary stage of the disease, are slow, and the parts are concealed from our view till the diseased action has proceeded to a certain stage.

2dly. Of the parts which have felt the venereal irritation, those which are most exposed to cold first take up the diseased action.

3dly. The venereal disposition, when once formed in a part, must necessarily go on to the venereal action; or, when a part has felt the irritation from venereal matter, that is, when contaminated, there is no means of preventing its falling into the disease. To illustrate this, by another contagion, let us suppose ten subjects exposed to the variolous effluvia. The probability is, that all of them will inhale those effluvia, which will pass through the circulation of each, but only such as are at the time susceptible of its effects will have their skin irritated or contaminated in such a manner as, in about twelve or fourteen days after, to take on the disease; and we have no means of knowing whether the variolous irritation has taken place or not, till we perceive the symptoms of the disease; what is more, if we did know, we have no means of preventing the subsequent disease. In all those persons who at the end of a certain period show the disease, we must conclude that the same action has commenced at the time that the variolous effluvia passed through the circulation, and irritated or contaminated certain parts. The same conclusion must be drawn in cases of syphilis; but as no action shows itself, Mr. Hunter has chosen to give that state of the parts between contamination and the appearance of the disease, the name of a disposition to take on the diseased action. Without inquiring into the propriety of this term, it is right to remark the absolute necessity of distinguishing the two states of the parts in syphilis; because as in this, and in all other morbid poisons, when contamination has taken place, the diseased action will follow, so it is in vain to attempt curing the disposition, though we can cure the action. Thus all the severest salivations to

prevent secondary symptoms, or lues venerea, are useless, and probably were persevered in from the erroneous ideas of *eradication*.

4thly. All parts of the body, under the disposition, do not take on the action at the same time. The skin and throat first; the bones or periosteum afterwards.

5thly. At whatever period the diseased action commences, it gradually increases, the parts never healing spontaneously.

6thly. Mercury hinders a disposition from forming, or prevents contamination. This is a fair inference, but can never be ascertained, because the primary diseased action, whether chancre or gonorrhœa, has always commenced before mercury is applied.

7thly. Mercury does not destroy a disposition already formed. This follows, if we admit, according to proposition the 3d, that, when the disposition is formed, or a part contaminated, nothing can prevent the diseased action from taking place.

8thly. Mercury hinders the diseased *action* from taking place, although the *disposition* be formed. That is, the diseased action cannot take place at the time the constitution is under the mercurial action; but if the disposition has been formed, the action is only suspended by mercury, and will take place as soon as the mercurial irritation has ceased.

9thly. Mercury cures that action.

Hence, when a part is contaminated, and under the disposition to the disease, which should show itself at a certain time, mercury will protract that period, and the disease will not show itself as long as the constitution is under the influence of mercury. But all this time the disease will not be cured. After the mercurial irritation has ceased, the venereal disposition which has existed ever since the parts were contaminated, will come into action; that is, the disease will appear, and in this state it may be cured.

These principles being established, explain at once the difficulty that existed whilst attempts were made to *eradicate the virus*.

As it was found that the disease was cured by mercury, it was thought that an increase of that mineral would prevent its return; and when it was experimentally found that no increase would prevent its appearance in a distant part, the only inference drawn was, that when once the poison had entered the blood it was scarcely possible *to eradicate it*.

The case of A. B. [p. 285.] is not only very much confused, but it is to be remarked, that Mr. Hunter could only have seen the patient after he was received into St. George's hospital. All the symptoms described at that period are somewhat uncertain: those about the anus, we are informed, may arise from other causes. [p. 298.] The same is remarked of inflammation in the eye, [p. 301.] even when it has yielded to mercury. The pain in the head was not cured by the mercurial course. The only remaining symptom is the throat. This, though included in the same order as the skin, may sometimes

form a subdivision of that order, and the one may be cured, after which the disease may appear in the other. But this is, I believe, very uncommon, for if the disease appears in the skin and throat, both are usually affected so nearly at the same time as to be cured together. On the whole, it may be determined that a case of so many anomalies, and the greater part of which is so ill authenticated, cannot be admitted as an illustration till supported by others; and that a solitary instance of this kind should have found a place in the work, can only be accounted for by the readiness of Mr. Hunter to make every possible concession to long received opinions.

I cannot conclude this part of the subject, without relating the substance of a conversation I had the happiness of enjoying with Mr. Hunter, a very few days before he died. At the close of the first edition of "Morbid Poisons," this conversation is alluded to as the circumstance which gave rise to that publication.

I waited on him to propose preparing for the public an explanation of his doctrine, contained in the Treatise on the Venereal Disease. Those who knew Mr. Hunter well, know how fond he was of conversing on pathological subjects with such as took pains to follow his mode of induction. They will therefore not wonder, if, on this occasion, our conversation was more protracted than his numerous engagements might seem to permit. I remarked to him how ill he was understood, and the probability that he might be best explained by answering those who had objected to his doctrines. He was much pleased with the proposal, and informed me that he had recommended the undertaking to one who understood him very well, but did not seem quite ready at that kind of writing. "It is surprising," said I, "how few people understand your distinction between Disposition and Action, and that a remedy which will cure one will not cure the other." "It surprises me daily," said he, "and most of all, that Mr. Moore should have misunderstood me so much." "Probably," said I, "it may be the simplicity of your doctrine that makes others overlook it, whilst they are endeavouring to unravel a mystery." "It may be so," said he, "for I had lately an opportunity of seeing how easily it might be comprehended, even by one who is altogether unaccustomed to such inquiries.

"A gentleman," continued he, "who had been cured of a chancre at a distance from home, called to consult me whether he might consider himself as perfectly free from the disease. Whilst he was taking great pains to explain to me how he had been salivated, and how long he had continued the use of mercury after the chancre was healed, I interrupted him, by observing, that if he had continued the use of mercury till now, I could not pretend to say whether he was free from the disease. 'How then,' said the gentleman, 'am I to ascertain my real situation?' 'If,' replied I, 'you find no symptoms in the course of three months, the probability is, that you will remain well till you expose yourself to a new source of infection.'

"In about six weeks he returned with a sore throat and copper spots. I explained to him, that he should not blame his surgeon, who, even if he had known what was to happen, could not have prevented it. The patient went through a necessary course of mercury, till he was cured of every symptom; and then demanded, with some impatience, whether he was then secure. 'You are secure,' replied I, 'from every return on the genitals, and on your skin and throat; but as it is impossible for me to know whether your bones are contaminated, I cannot pretend to say whether you will have nodes in a few weeks time.' He now began to comprehend the doctrine, and submitted to await the result. In about six weeks he actually had nodes; after the cure of which, by a severe salivation, I made no scruple to assure him, that he was perfectly free from the disease."

I have transcribed this conversation, as an epitome of one part of Mr. Hunter's doctrine, and also to show that his increased experience confirmed his conviction of what he had written and taught.

CHAP. II.

Of the Symptoms of the Lues Venerea.

When the venereal matter has affected the constitution in any of the ways before mentioned, it has the whole body to work upon, and shows itself in a variety of shapes; many of which putting on the appearance of a different disease, we are often obliged to have recourse to the preceding history of the case, before we can form any judgment of it. Probably the varieties in the appearances may be referred to the three following circumstances: the different kinds of constitutions; the different kinds of solids affected; and the different dispositions which the solids are in at the time: for I can easily conceive, that a peculiarity of constitution may make a very material difference in the appearance of the same specific complaint; and I am certain, that the solids, according to their different natures, produce a very different appearance when attacked with this disease; and I can only easily conceive that a different disposition from the common, in the solids at the time, may make a considerable difference in the appearances.

The difference of constitution, and of the same parts at different times, may have considerable effects in the disease with respect to its appearing sooner or later. This I am certain of, that the different parts of the body produce a very considerable difference in the times of appearance of this disease. That it appears much

sooner in some parts than in others is best seen where different parts are affected in the same person; for I have already endeavoured to show that it is most probable that all the parts affected are contaminated nearly at the same time. This difference in the times is either owing to some parts being naturally put into action more easily by the poison than others, or they are naturally more active in themselves, and therefore probably will admit more quickly the action of every disease that is capable of affecting them.

When on the general history of the lues venerea, I divided the parts into two orders, according to the time of their appearance; I also observed that the first were commonly the external parts, as the skin, nose, tonsils; and that the second were more internal, as the bones, periosteum, fasciæ, and tendons.

The time necessary for its appearance, or for producing its local effects in the several parts of the body most readily affected, after it has got into the constitution, is uncertain; but in general it is about six weeks; in many cases, however, it is much later, and in others much sooner. In some cases it appears to produce its local effects within a fortnight after the possibility of the absorption of the matter. In one case a gentleman had a chancre, and a swelling in the groin came on, and within the before-mentioned time he had venereal eruptions all over the body. He could not impute this to any former complaint, yet there is a possibility of its having arisen from the first mode of catching the disease, by simple contact, at the time he got the local or chancre, which might extend the time to a week or more, although this is not probable. In another case, three weeks after the healing of the chancre, eruptions broke out all over the body, and this happened only a fortnight after leaving off the course of mercury that cured the chancre. The effects on other parts of the body that are less susceptible of this irritation, or are slower in their action, are of course much later in appearing; and in those cases where both orders of parts are contaminated, it is in general not till after the first has made its appearance for a considerable time, and even perhaps after it has been cured; for while the parts first in order of action were contaminated and under cure, the second in order are only in a state of contamination; and go on with the disease afterwards, although it may never again appear in the first.

From this circumstance of the parts second in order coming later into action, we can plainly see the reason why it shall appear in them, although the first in order may have been cured; for if the external parts, or first in order, have been cured, and the internal, or second, such as the tendons, bones, periosteum, &c. have not been cured, then it becomes confined solely to these parts. The order of parts may sometimes be inverted; for I have seen cases where the periosteum, or bone, was affected prior to any other part; whether in the same case it might in the end have affected the skin, or throat, I

will not pretend to say, as it was not allowed to go on; but it is possible that the second order of parts may be affected without the first having ever been contaminated.

Its effects on the deeper seated parts are not like those produced in the external, and the difference is so remarkable as to give the appearance of another disease; and a person accustomed to see it in the first parts only, would be entirely at a loss about the second.

The parts which come first into action go on with it, probably on the same principle, much quicker than the others; and this arises from the nature of the parts, as has already been observed.

Each succeeding part, that becomes affected, is slower and slower in its progress, and more fixed in its symptoms when produced; this arises also from the natural disposition of such parts, all their actions being slow, which indolent action may be assisted by the absence of the great disposing cause, that is, cold. I should, however, suspect that warmth does not contribute much to their indolence of action; for if it did, it would assist in the cure, which it appears not to do, these parts being as slow in their operations of restoration as they are in their actions of disease. We may also observe, that similar parts come sooner into action, and appear to go on more rapidly with it, as they are nearer the source of the circulation. It appears earlier on the face, head, shoulders, and breast, than on the legs, and the eruptions come sooner to suppuration in the before-mentioned parts.*

The circumstance of its being very late in appearing in some parts, when it had been only cured in its first appearances, as mentioned, has made many suppose that the poison lurked somewhere in the solids; and others, that it kept circulating in the blood for years.

It is not, however, easy to determine this point; but there can be no good reason for the first hypothesis, as the lurking disposition never takes place prior to its first appearance; for instance, we never find that a man had a chancre a twelvemonth ago, and that it broke out after in venereal scurfs, upon the skin, or ulcers in the throat. The slowness of its progress is only when the parts less susceptible of its irritation have been affected by it.

In the previous chapter we have a minute detail of the doctrine. This section contains an illustration of it by those phenomena in the history of the disease, which, though perpetually occurring, were not only not understood, but never regularly traced, before our author detected them. The passage, like many others, is encumbered more than is necessary by a perpetual reference to objections which may be raised against the doctrine, and by allusions to the original struc-

* See Introduction.

ture of parts, the accidental situation in which they may be placed, or the peculiarities of constitution which may influence them. All these it might be expected that Mr. Hunter would not overlook; but it is much to be regretted that he did not keep them apart, to be considered by themselves as deviations from the usual course. By conceiving it his duty to meet them on all occasions, the attention of the reader is unnecessarily distracted, so as with difficulty to retain the series of actions which are to be considered as forming the laws of the disease. Let us see how they may be disposed in the order suggested.

The venereal matter, being absorbed and affecting the constitution, induces certain actions in different parts, according to the nature of those parts, and to the circumstances in which they may happen to be placed. The slowness of these actions makes them the more liable to be interrupted by various others which may be going on in the constitution or parts, and renders it difficult to ascertain them till they are completely formed. We should therefore be cautious of giving an opinion without a minute inquiry into every part of the previous history as well as an examination of all the present symptoms, attending to the precise period of every event which has occurred throughout, comparing them with the periods at which such events occur in the usual progress of the disease, marking any deviation, and seeing how far it may be accounted for, or registering each for our future information.

We must always keep in view, however, that the subject on which our inquiries are made is a living body, and in the whole race of animals of the same class we see so much variety of constitution, that we cannot wonder if this variety affects the changes which is produced by disease. Yet in both there are certain actions which are so uniform in the whole, that they may be considered as laws; and, whenever we suspect any deviation from them, we should trace them with the utmost minuteness, and record them with equal fidelity.

We are not to consider the different forms and periods at which different parts of the same body are affected by the same poison, as among these anomalies. They may probably be accounted for from the very structure of the parts, their accidental exposure to heat or cold, and the slow manner in which all the actions of some of them are carried on; but, independently of this, there is such an uniformity in this respect in most constitutions, that they may be considered as laws. The usual progress of the disease is for the soft parts to be first affected, and the bones with their appendages afterwards, yet it cannot be considered as any deviation from the law, if the only secondary symptoms we meet with should be in the bones; because we never can ascertain whether any other parts were contaminated, when the poison was circulating.

Such is the general drift of this passage, the whole of which,

being only introductory to a more minute account of the symptoms, might very well have been omitted. Indeed, the last paragraph is absolutely unintelligible, and its insertion can only be accounted for by the circumstances which attended the preparation of the book for the public, as mentioned in the commentator's preface.

SECTION I.

Of the Symptoms of the first Stage of the Lues Venerea.

The first symptoms of the disease, after absorption, appear either on the skin, throat, or mouth. These differ from one another according to the nature of the parts affected. I shall therefore divide them into two kinds, although there appears to be no difference in the nature of the disease itself.

The appearance on the skin I shall call the first, although it is not always the first appearance; for that in the throat is often as early a symptom as any. The appearances upon the skin generally show themselves in every part of the body, no part being more susceptible than another, first in discolorations, making the skin appear mottled, many of them disappearing, while others continue, and increase with the disease.*

In others it will come on in distinct blotches, often not observed till scurfs are forming; at other times they appear in small distinct inflammations, containing matter and resembling pimples, but not so pyramidal, nor so red at the base.

Venereal blotches, at their first coming out, are often attended with inflammation, which gives them a degree of transparency, which I think is generally greater in the summer than in the winter, especially if the patient be kept warm. In a little time this inflammation disappears, and the cuticle peals off in the form of a scurf. This sometimes misleads the patient and the surgeon, who look upon this dying away of the inflammation as a decay of the disease, till a succession of scurfs undeceives them.

These discolorations of the cuticle arise from the venereal irritation, and are seldom to be reckoned a true inflammation, for they seldom have any of its characteristics, such as tumefaction and pain; but this is true only on those parts most exposed; for in parts well covered, and in parts constantly in contact with other parts, there is more of the true inflammatory appearance, especially about the anus.

* This is not peculiar to this disease, it often takes place in the small-pox.

The appearance of the parts themselves next begins to alter, forming a copper-coloured, dry, inelastic cuticle, called a scurf; this is thrown off, and new ones are formed. These appearances spread to the breadth of a sixpence or shilling, but seldom broader, at least for a considerable time, every succeeding scurf becoming thicker and thicker, till at last it becomes a common scab, and the disposition for the formation of matter takes place in the cutis under the scab, so that at last it turns out a true ulcer; in which state it commonly spreads, although but slowly.

These appearances arise from the gradual loss of the true sound cuticle; the diseased cutis having lost the disposition to form one; and, as a kind of substitute for this want of cuticle, an exudation takes place, forming a scale, and afterwards becoming thicker, and the matter acquiring more consistence, it at last forms a scab; but before it has arrived at this stage, the cutis has given way, and ulcerated, after which the discharge becomes more of a true pus. When it attacks the palms of the hands and the soles of the feet, where the cuticle is thick, a separation of the cuticle takes place, and it peels off, a new one is immediately formed, which also separates, so that a series of new cuticles takes place from its not so readily forming scurfs as on the common skin. If the disease is confined to those parts, it becomes more difficult to determine whether or not it be venereal; for most diseases of the cutis of these parts produce a separation of the cuticle, attended with the same appearances in all, and having nothing characteristic of the venereal disease.

Such appearances are peculiar to that part of the common skin of the body which is usually exposed; but when the skin is opposed by another skin which keeps it in some degree more moist, as between the nates, about the anus, or between the scrotum and the thigh, or in the angle between the two thighs, or upon the prolabium of the mouth, and in the arm-pits, the eruptions never acquire the above-described appearances, and instead of scurfs and scabs we have the skin elevated, or, as it were, tumefied by the extravasated lymph into a white, soft, moist, flat surface, which discharges a white matter. This may perhaps arise from there being more warmth, more perspiration, and less evaporation, as well as from the skin being thinner in such places. What strengthens this idea still more is, that in many venereal patients I have seen an approach towards such appearances on the common skin of the body; but this has been on such parts as were covered with the clothes; for on those parts of the skin that were not covered, there was only the flat scurf: these, however, were redder than the above-described appearances, but hardly so high.

How far this is peculiar to the venereal disease, I know not. It may take place in most scurfy eruptions of the skin. From a supposition of this not being venereal, I have destroyed them at the side of the anus with a caustic, and the patient has got well; however, from

my idea of the disease, that every effect from the constitution is truly local, and therefore may be cured locally, a cure effected by this treatment does not determine the question.

This disease, on its first appearance, often attacks that part of the fingers upon which the nail is formed, making that surface red which is seen shining through the nail; and, if allowed to continue, a separation of the nail takes place, similar to the cuticle in the before-described symptoms; but here there cannot be that regular succession of nails as there is of cuticle.

It also attacks the superficies of the body which is covered with hair, producing a separation of the hair. A prevention of the growth of young hair is also the consequence while the disease lasts.

The second part in which it appears is most commonly the throat, sometimes the mouth and tongue. In the throat, tonsils, and inside of the mouth, the disease generally shows itself at once in the form of an ulcer without much previous tumefaction, so that the tonsils are not much enlarged; for when the venereal inflammation attacks these parts, it appears to be always upon the surface, and it very soon terminates in an ulcer.

These ulcers in the throat are to be carefully distinguished from all others of the same parts. It is to be remarked, that this disease, when it attacks, always, I believe, produces an ulcer; although this is not commonly understood; for I have seen cases where no ulceration had taken place, called, by mistake, venereal. It is therefore only this ulcer that is to be distinguished from other ulcers of these parts. This species of ulcer is generally tolerably well marked, yet it is perhaps in all cases not to be distinguished from others that attack this part, for some have the appearance of being venereal, and what are really venereal resemble those that are not. We have several diseases of this part which do not produce ulceration on the surface, one of which is common inflammation of the tonsils, which often suppurates in the centre, forming an abscess, which bursts by a small opening, but never looks like an ulcer begun upon the surface, as in the true venereal: this case is always attended with too much inflammation, pain, and tumefaction of the parts to be venereal; and if it suppurates and bursts, it subsides directly, and it is generally attended with other inflammatory symptoms in the constitution.

There is another disease of these parts, which is, an indolent tumefaction of the tonsils, and is peculiar to many people whose constitutions have something of the scrofula in them, producing a thickness in the speech. Sometimes the coagulable lymph is thrown out on the surface, and called by some ulcers, by others sloughs, and such are often called putrid sore throats. Those commonly swell to too large a size for the venereal; and this appearance is easily distinguished from an ulcer or loss of substance; however, where it is

not plain at first sight, it will be right to endeavour to remove some of it; and if the surface of the tonsil is not ulcerated, then we may be sure it is not venereal. I have seen a chink filled with this appearing very much like an ulcer; but upon removing the coagulable lymph, the tonsil has appeared perfectly sound. I have seen cases of a swelled tonsil where a slough formed in its centre, and that slough has opened a passage out for itself; and when it has been as it were sticking in this passage, it has appeared like a foul ulcer.

The most puzzling stage of the complaint is when the slough is come out, for then it has most of the characters of the venereal ulcer; but when I have seen the disease in its first stages, I have always treated it as of the erysipelatous kind, or as something of the nature of a carbuncle.

When I have seen them in their second stage only I have been apt to suppose them venereal; however, no man will be so rash as to pronounce what a disease is from the eye only, but will make inquiries into all the circumstances before he forms a judgment. If there have been no preceding local symptoms within the proper date, he will suspend his judgment, and wait a little to see how far nature is able to relieve herself. If there has been any preceding fever, it will be still less probable that it is venereal. However, I will not say of what nature such cases are, but only that they are not venereal, as they are often believed to be. I have seen a sore throat of this kind mistaken for venereal, and mercury given till it affected the mouth, which, when it did, it brought on a mortification on all the parts concerned in the first disease. It would therefore appear that this species of the sore throat is aggravated by mercury.

There is another complaint of those parts which is often taken for venereal, which is, an ulcerous excoriation, where the ulceration or excoriations run along the surface of the parts, becoming very broad and sometimes foul, having a regular termination, but never going deep into the substance of the parts as the venereal ulcer does. There is no part of the inside of the mouth exempted from this ulcerous excoriation; but I think it is most frequent about the root of the uvula, and spreads forwards along the palatum molle. That such are not venereal is evident from their not giving way in general to mercury; and I have seen them continue for weeks without altering, and a true venereal ulcer appear upon the centre of the excoriated part.

The difference between the two is so strong that there can be no mistake; patients have gone through a course of mercury which has perfectly cured the venereal ulcers, but has had no effect upon the others, which have afterwards been cured by bark.

The true venereal ulcer in the throat is perhaps the least liable to be mistaken of any of the forms of the disease. It is a fair loss of substance, part being dug out as it were from the body of the

tonsil, with a determined edge, and is commonly very foul, having thick white matter adhering to it like a slough, which cannot be washed away.

Ulcers in such situations are always kept moist, the matter not being allowed to dry and form scabs, as in those upon the skin; the matter is carried off the ulcers by deglutition, or the motion of the parts, so that no succession of scurfs or scabs can take place, as on the skin.

Their progress is also much more rapid than on the common skin, ulceration taking place very fast.

Like most other spreading ulcers, they are generally very foul, and for the most part have thickened or bordered edges, which is very common to venereal or cancerous sores, and indeed to most sores which have no disposition to heal, whatever the specific disease may be.

When it attacks the tongue it sometimes produces a thickening and hardness in the part; but this is not always the case, for it very often ulcerates as in the other parts of the mouth.

They are generally more painful than those of the skin; although not so much so as common sore throats arising from inflamed tonsils.

They oblige the person to speak thick, or as if his tongue was too large for his mouth, with a small degree of snuffling.

These are the most common symptoms of this stage of the disease; but it is perhaps impossible to know all the symptoms this poison produces when in the constitution. I knew a gentleman who had a teasing cough, which he imputed to it; for it came on with the symptomatic fever and continued with it, and by using mercury both disappeared.

There are inflammations of the eyes which are supposed to be venereal; for after the usual remedies against inflammation have been tried in vain, mercury has been given on the supposition of the case being venereal, and sometimes with success, which has tended to establish this opinion. But if such cases are venereal, the disease is very different from what it is when attacking other parts, from the constitution, for the inflammation is more painful than in venereal inflammation proceeding from the constitution; and I have never seen such cases attended with ulceration, as in the mouth, throat, and tongue, which makes me doubt much of their being venereal.

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All these symptoms are described with so much accuracy and minuteness, that nothing can be added to them. It may, however, be right to caution the reader against a mistaken interpretation of that part of the text to which the note refers. Dr. Clutterbuck has brought this passage as a proof that Mr. Hunter admits venereal blotches will cure themselves without the use of any remedy. But,

on a second examination, that gentleman will see that the symptom here noticed is the erythema, which precedes eruptions from many other morbid poisons, and not the true disease. The illustration of small-pox is sufficient to show this, and the same happening still more frequently in cow-pox proves, that the discoloration is not the disease itself, but an erythema, which arises from the constitution feeling an irritation that produces this temporary effect on the skin. The subsequent section, containing the author's experiments, is peculiarly interesting.

SECTION II.

Experiments made to ascertain the Progress and Effects of the Venereal Poison.

To ascertain several facts relative to the venereal disease, the following experiments were made. They were begun in May, 1767.

Two punctures were made on the penis with a lancet dipped in venereal matter from a gonorrhœa; one puncture was on the glans, the other on the prepuce.

This was on a Friday; on the Sunday following there was a teasing itching in those parts, which lasted till the Tuesday following. In the mean time, these parts being often examined, there seemed to be a greater redness and moisture than usual, which was imputed to the parts being rubbed. Upon the Tuesday morning, the parts of the prepuce where the puncture had been made were redder, thickened, and had formed a speck; by the Tuesday following, the speck had increased and discharged some matter, and there seemed to be a little pouting of the lips of the urethra, also a sensation in it in making water, so that a discharge was expected from it. The speck was now touched with lunar caustic, and afterwards dressed with calomel ointment. On Saturday morning, the slough came off; and was again touched, and another slough came off on the Monday following. The preceding night the glans had itched a good deal, and on Tuesday a white speck was observed where the puncture had been made; this speck, when examined, was found to be a pimple full of yellowish matter. This was now touched with the caustic, and dressed as the former. On the Wednesday, the sore on the prepuce was yellow, and therefore was again touched with caustic. On the Friday both sloughs came off; and the sore on the prepuce looked red, and its basis not so hard; but on the Saturday it did not look quite so well, and was touched again; and, when that went off, it was allowed to heal, as also the other, which left a dent in the glans.

This dent on the glans was filled up in some months, but for a considerable time it had a bluish cast.

Four months afterwards the chancre on the prepuce broke out again; and very stimulating applications were tried; but these seemed not to agree with it, and nothing being applied, it healed up. This it did several times afterwards, but always healed up without any application to it. That on the glans never did break out; and herein also it differed from the other.

While the sores remained on the prepuce and glans, a swelling took place in one of the glands of the right groin. I had for some time conceived an idea that the most effectual way to put back a bubo was to rub in mercury on that leg and thigh, that thus a current of mercury would pass through the inflamed gland. There was a good opportunity of making the experiment. I had often succeeded in this way, but now wanted to put it more critically to the test.* The sores upon the penis were healed before the reduction of the bubo was attempted. A few days after beginning the mercury in this method the gland subsided considerably. In was then let off; for the intention was not to cure it completely at present. The gland some time after began to swell again, and as much mercury was rubbed in as appeared to be sufficient for the entire reduction of the gland; but it was meant to do no more than to cure the gland locally, without giving enough to prevent the constitution from being contaminated.

About two months after the last attack of the bubo, a little sharp pricking pain was felt in one of the tonsils in swallowing any thing; and, on inspection, a small ulcer was found, which was allowed to go on till the nature of it was ascertained, and then recourse was had to mercury. The mercury was thrown in by the same leg and thigh as before, to secure the gland more effectually, although that was not now probably necessary.

As soon as the ulcer was skinned over, the mercury was left off, it not being intended to destroy the poison, but to observe what parts it would next affect. About three months after, copper-coloured blotches broke out on the skin, and the former ulcer returned in the tonsil. Mercury was now applied the second time for those effects of the poison from the constitution, but still only with a view to palliate.

It was left off a second time, and the attention was given to mark where it would break out next; but it returned again in the same parts. It not appearing that any further knowledge was to be procured by only palliating the disease a fourth time in the tonsil, and a third time in the skin, mercury was now taken in a sufficient quantity, and for a proper time, to complete the cure.

* The practice in 1767 was, to apply a mercurial plaster on the part, or to rub in mercurial ointment on the part, which could hardly act by any other power than sympathy.

The time the experiments took up, from the first insertion to the complete cure, was about three years.

The above case is only uncommon in the mode of contracting the disease, and the particular views with which some parts of the treatment were directed; but, as it was meant to prove many things, which, though not uncommon, are yet not attended to, attention was paid to all the circumstances. It proves many things, and opens a field for further conjectures.

It proves, first, that matter from a gonorrhœa will produce chancres.

It makes it probable that the glans does not admit the venereal irritation so quickly as the prepuce. The chancre on the prepuce inflamed and suppurated in somewhat more than three days, and that on the glans in about ten. This is probably the reason why the glans did not throw off its sloughs so soon.

It renders it highly probable, that to apply mercury to the legs and thighs is the best method of resolving a bubo; and therefore also the best method of applying mercury to assist in the cure, even when the bubo suppurates.

It also shows that buboes may be resolved in this way, and yet the constitution not safe; and therefore that more mercury should be thrown in, especially in cases of easy resolution, than what simply resolves the bubo.

It shows that parts may be contaminated, and may have the poison kept dormant in them, while under a course of mercury for other symptoms, but break out afterwards.

It also shows that the poison, having originally only contaminated certain parts, when not completely cured, can break out again only in those parts.

SECTION III.

Of the Symptoms of the Second Stage of the Lues Venerea.

This stage of the disease is not so well marked as the former; and, as it is of more importance, it requires all our discernment to determine what the disease is.

The parts less susceptible of this irritation are such as are more out of the way of the great exciting cause, which is, the external air, as has been before related. And they begin to take on the venereal action whether it may or it may not have produced its local effects upon the external or exposed surfaces; and they even go on with the action, in many cases, after these surfaces first affected have taken on the action, and have been cured, as has been already observed.

These deeper seated parts are, the periosteum, tendons, fasciæ, and ligaments; however, what the parts affected may be when the disease is in this stage is not always certain; I have known it produce total deafness, and some of those cases to end in suppuration, attended with great pain in the ear and side of the head. Such cases are generally supposed to arise from some other cause; and nothing but some particular circumstance in the history of the case, or some symptom attending it, can lead the surgeon to the nature of the complaint.

When these deeper seated parts become irritated by this poison, the progress is more gradual than in the first; they have very much the character of scrofulous swellings, or chronic rheumatism, only in this disease the joints are not so subject to it as they are in the rheumatism. We shall find a swelling come upon a bone when there has been no possible means of catching the infection for many months, and it will be of some size before it is taken notice of, from having given but little pain. On the other hand, there shall be great pain, and probably no swelling to be observed till some time after. The same observations are applicable to the swelling of tendons and fasciæ.

As these swellings increase by slow degrees, they shew but little signs of inflammation. When they attack the periosteum, the swelling has all the appearance of a swelling of the bone, by being firm and closely connected with it.

The inflammation, produced in these later stages of the disease, can hardly get beyond the adhesive, in which state it continues growing worse and worse, and when matter is formed it is not true pus, but a slimy matter. This may arise in some degree from the nature of the parts not being in themselves easily made to suppurate; and, when they do suppurate, the same languidness still continues, insomuch that this matter is not capable of giving the extraneous stimulus, so as to excite true suppuration or ulceration, even after the constitution is cleared of the original cause, and then the disease is probably scrofulous. Some nodes, either in the tendons or bones, last for years before they form any matter at all; and in this case it is doubtful whether they are venereal or not, although commonly supposed to be so.

I have already observed that the pain in the first stages of this disease is much less than might be expected, considering the effects produced by the poison. The disease being very slow and gradual in its progress, its giving little pain may be accounted for. An ulcer in the throat causes no great pain; and the same may be said of blotches on the skin, even when they become large sores.

When the periosteum and bones become affected, the pain is sometimes very considerable, and at other times there is hardly any. It is not, perhaps, easy to account for this. We know also that the tendinous parts, when inflamed, give in some cases very considerable

pain, and that of the heavy kind, while in others they will swell considerably without giving any pain.

These pains are commonly periodical, or have their exacerbations, being commonly worst in the night. This is common to other aches or pains, especially of the rheumatic kind, which the venereal pains resemble very much.

When the pain is the first symptom, it affords no distinguishing mark of the disease, it is therefore often taken for the rheumatism.

In the previous sections having shewn the progress of the secondary symptoms, in the first order of parts, that is, in the softer and and more sanguiferous parts, Mr. Hunter proceeds now to trace them in the second order, that is, the bones, periosteum, fasciæ, and ligaments. This section is not less complete than the former, and requires no illustration. The same may be said of the succeeding section on the constitutional symptoms, which contains a most accurate illustration of the hectic fever, mentioned in the introduction.

The fissures alluded to by Mr. Hunter, by some authors called Rhagades, are very common in warm climates, at the ends of the fingers and edges of the hand in such whose skin is particularly dry. By some writers they are called leprous, by others venereal, but they seem unconnected with either disease; at least in all the subjects in whom I saw them, there was no grounds to suspect either. The appearance was constantly attended with a particular dry skin and with an occasional burning heat in the extremities.

SECTION IV.

Of the Effects of the Poison on the Constitution.

The poisonous matter, simply as extraneous matter, produces no change whatever upon the constitution, and whatever effects it has depend wholly upon its specific quality as a poison. The general effects of this poison on the constitution are similar to other irritations, either local or constitutional. It produces fever, which is of the slow kind; and when it continues a considerable time, it produces what is called a hectic disposition, which is no more than an habitual slow fever arising from a cause which the constitution cannot overcome. While this exists, it is impossible that any thing salutary can go on in such a constitution. The patient

loses his appetite, or even if his appetite is good, loses his flesh, becomes restless, loses his sleep, and looks sallow.*

In the first stage of this disease, before it begins to show itself externally, the patient has generally rigors, hot fits, headachs, and all the symptoms of an approaching fever.

These symptoms continuing for some days, and often for weeks, show that there is some irritating cause which works slowly upon the constitution. It is then supposed to be whatever the invention or ingenuity of the practitioner shall call it; but the venereal eruptions or nodes upon either the periosteum, bones, tendons, or other parts, appearing, show the cause, and in some degree carry off the symptoms of fever and relieve the constitution for a little time, but they soon recur.

These constitutional complaints, however, are not always to be found; the poison stimulating so slowly as hardly to affect the constitution, unless it be allowed to remain in it a long time.

There are a number of local appearances, mentioned by authors, which I never saw, such as the fissures about the anus, &c. There are also a number of diseases, described by authors as venereal, especially by Astruc and his followers, which are almost endless. The cancer, scrofula, rheumatism, and gout, have been considered as arising from it, which may be in some measure true; but they are with them the disease itself, and all their consequences, as consumption, wasting from want of nourishment, jaundice, and a thousand other diseases, which happened many years before the existence of the lues venerea, are all attributed to it.

There is even at this day hardly any disease the practitioner is puzzled about, but the venereal comes immediately into his mind; and if this became the cause of careful investigation, it would be productive of good, but with many the idea alone satisfies the mind.

CHAP. III.

General Observations on the Cure of the Lues Venerea.

It has been observed before, that there are three forms of the venereal infection, gonorrhœa, chancre, and the lues venerea, which various forms I have endeavoured to account for. As they all three arise from the same poison, and as the two first depend only on a

* This kind of look, although arising entirely from a harrased constitution, is always supposed to be peculiar to a venereal one. This idea, however, does not arise from the look only, but from the leading symptoms.

difference in the nature of the parts, and the lues venerea on another circumstance which has been explained, it would be natural to suppose that one medicine, whatever it be, would cure all the forms of this disease. But we find from experience that this does not hold good; for one medicine, that is, mercury, cures only the chancre and the lues venerea, and the gonorrhœa is not the least affected by it; and what is still more remarkable is, that the two which it cures are in no respect similar, while the gonorrhœa, which it does not cure, is similar in some respects to the chancre, which it does cure.

It may be remarked, in general, that there is not only a difference in the form of the disease, but also in the modes of cure, and in the times necessary for the cure of the different forms of the disease, even when the same medicines cure. The gonorrhœa, in its cure, is the most uncertain of the three, the chancre next, and the lues venerea the most certain, although cured by the same medicine which cures the chancre.

A gonorrhœa in some cases shall be cured in six days, and in others require as many months; which, with regard to time, is about the proportion of thirty to one. A chancre may be sometimes cured in two weeks, and often requires as many months; which is in the proportion of four to one. The lues venerea in general may be cured in one or two months; which is only two to one. This calculation shows the regularity and irregularity, as to time, in the cure of each form of the disease.

I have formerly observed, that indispositions of the body often affect this disease very considerably, more especially the gonorrhœa and the chancre.

When an increase of symptoms takes place in a gonorrhœa, from an indisposition of body, nothing should be done for the gonorrhœa, the indisposition of body being only to be attended to; because we have no specific for the gonorrhœa, and in time it cures itself. But this practice is perhaps not to be followed in a chancre, or lues venerea. It may be necessary in those to continue the mercury, although perhaps more gently; for the mercury is a specific that cannot be dispensed with, because neither the chancre nor lues venerea are cured by themselves, but always increase.

This form of the venereal disease I have divided into two stages. When in the parts most susceptible of the disease, which I have called the first order of parts, and which appear to be the superficies only, the lues venerea is perhaps subject to less variety than either the gonorrhœa or chancre, and its mode of cure is of course more uniform, although the disease be less easily ascertained, at least for some time. In the second order of parts the lues venerea becomes more complicated, and its cure still less to be depended upon.

The cure of this form is much more difficultly ascertained than either of the two former, they being always local, and their effects visible, become more the objects of our senses, so that we are sel-

dom or ever deceived in the cure, although at the same time the cure is often more tedious and difficult; for, whenever the symptoms of the gonorrhœa or chancre have entirely disappeared, in general the patient may look upon himself as cured of them; but this is not the case in the lues venerea.

A lues venerea is the effects of the poison having circulated in the blood till it has irritated parts so as to give them a venereal disposition, which parts sooner or later assume the venereal action, according to the order of their susceptibility.

When the venereal matter is circulating, I have supposed that certain parts are irritated by it, and that a vast number of other parts escape, as is evidently the case with the chancre; for in the case of a chancre the whole glans, prepuce, and skin of the penis, have had the matter applied to them, yet only one or more parts are contaminated or irritated by it, all the others escaping; and we often see in the lues venerea, that when the parts contaminated assume the action, it is confined to them without affecting other parts, although the disease be allowed to go on for a considerable time without any attempt to a cure; and also, if these parts are imperfectly cured, the disease only returns in them; therefore these effects, although arising from the constitution, are in themselves entirely local, similar to the gonorrhœa and chancre, and like them may be cured locally; and the person may still continue to have the lues venerea, although not in these, yet in other parts, because there may be many other parts in the same body that are under the venereal disposition, although they may not yet have assumed the venereal action. To cure the local and visible effects of the disease, we must attack it through that medium by which it was communicated, that is, the blood, without however considering the blood itself as diseased, or containing the poison, but as the vehicle of our medicine, which will be carried by it to every part of the body where the poison was carried, and in its course it will act upon the diseased solids. This practice must be continued some time after all symptoms have disappeared; for the venereal action may to appearance be stopped, and symptoms disappear, and yet all return again, the venereal action not being completely destroyed. If the medicine were also a cure for the disposition in the parts second in order, and could prevent their coming into action, it would be necessary to continue it somewhat longer on their account; but this is not the case, for the visible effects, symptoms, or appearances, in the first order of parts, give way to the treatment, while the parts that have only acquired the disposition, and are still inactive, afterwards assume the action and continue the disease. This deceives the surgeon, and leaves the ground-work for a second set of local effects in the parts second in order; but I have asserted, that what will cure an action will not cure a disposition; if so, we should push our medicine no further than the cure of the vi-

sible effects of the poison, and allow whatever parts may be contaminated to come into action afterwards.

The parts that first assume the venereal action are the easiest of cure; and I have suspected that those effects of the disease, being external, were in some degree assisted in their cure by the local action of the medicine, which evidently passes off through those parts.

When the disease has attacked the parts second in order of susceptibility, it generally happens that they are more difficult of cure than the former; therefore, when they are affected at the same time with the former, and are cured, we may be sure that the first will be also cured. From hence, as it would appear, that the parts most susceptible of the disease are also easiest of cure, it follows that the parts least susceptible of the disease are also most difficult of cure; and I believe that this is seldom or never reversed, therefore those second in order of susceptibility have this advantage, that we have the local complaints for our guide to judge of the whole; and in such we have only to continue the treatment till they all vanish, being certain that the cure of the first, if there are any, will be involved in those of the second.

As the second are attended with more tumefaction or swelling than the first, it becomes a question, whether the mercurial course should be continued till the whole has subsided. But I believe it is not necessary to continue the method of cure till the whole tumefaction disappears; for as those local complaints cannot contaminate the constitution by re-absorption, and as the venereal disposition and action from the constitution can be cured while the local effects still remain, even where the tumefaction, forming nodes on the bones, fasciæ, &c. is carried the length of suppuration, there can be no occasion for continuing the course longer than the destruction of the venereal action. But this effect of our medicine is not easily known, therefore it will be necessary to pursue the method of cure till the appearances become stationary, and probably a little longer, to destroy the whole action of the disease. From these circumstances, it would appear, that the venereal irritation, when in this stage of the disease, is easier of cure than the effects of that irritation, such as the tumefaction.

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This chapter cannot be well understood, unless the reader is previously well acquainted with the doctrine of the disease. This introductory part, like too many others, is somewhat confused, and in the first paragraph there is a kind of attempt at paradox which is neither necessary, nor in my little opinion perfectly founded. That the three forms of the disease, as stated, exist, is to me unquestionable; but I have endeavoured to show that all three are cured by similar means, though in different degrees. The respective irregula-

rities in the period of cure are easily accounted for. As we can only ascertain that the gonorrhœa is cured by the cessation of the discharge, we cannot wonder at the uncertainty of that period, when we consider the variety of its causes, and that a discharge may continue after the virulent properties of the venereal gonorrhœa have ceased. The period of curing a chancre is rendered more uncertain than it would be, because our patient is rarely confined by the disease, and even if never interrupted in the use of the remedy, it is impossible to say, what circumstances he may be exposed to which may accelerate or retard the mercurial irritation. If in the bones or their appendages, the disease is usually serious enough to require the patient's confinement. There seems a contradiction between the middle and close of the long paragraph. It is first said, that the means of cure "should be continued some time after all the symptoms have disappeared;" and, at the close, that "we should push our medicine no further than the cure of the visible effects of the poison." It must be admitted, that in a work of such importance, even this seeming contradiction is hardly allowable, though it is easily explained by a proper attention to the context, and to the doctrine of the laws of the disease. In the first of the sentences, we may observe, that the author confines himself to the "venereal *action*," which, he says, "may to appearance be stopped and symptoms disappear, and yet all return again, the venereal *action* not being completely destroyed." That is, though the symptoms may disappear, yet we cannot assert that the action is altogether superseded. But this is confined to the order of parts in which the symptoms have appeared, or the *action* commenced. We are not to continue the remedy with any expectation of preventing the occurrence of the disease in parts in which it has not hitherto shewn itself, for in these the disposition only exists, the *action* of the disease not having taken place; and "I have asserted," says he, "that what will cure an action will not cure a disposition." In fewer words, if lues venerea has appeared in the soft parts only, by continuing the mercury a short time after you have cured it in those soft parts, you may be sure that the disease will not re-appear in them; but it will be in vain to continue the remedy with any view of *preventing* the disease from appearing in the bones. If they have not been contaminated, they will not show the disease; if they are, the disposition is formed, which cannot be cured. We must wait till the action commences, which may be cured.

SECTION I.

Of the Use of Mercury in the Cure of the Lues Venerea.

MERCURY, in the lues venerea, as in the chancre, is the great specific, and hardly any thing else is to be depended upon. It is necessary that we should always consider well the effects of this medicine, both on the constitution at large, and the disease for which it is given. The effects of mercury on a constitution will always be as the quantity of mercury in that constitution; and when the same quantity affects one constitution more than another, it is in the proportion of the irritability of that constitution to the powers of mercury, entirely independent of any particular preparation, or any particular mode of giving it.

With regard to the preparations of the medicine, and the modes of applying it, we are to consider two things: first, the preparation and mode that is attended with the least trouble or inconvenience to the patient; and, second, the preparation and mode of administering it that most readily conveys the necessary quantity into the constitution.

Nothing can show more the ungrateful and unsettled mind of man, than his treatment of this medicine. If there is such a thing as a specific, mercury is one for the venereal disease in two of its forms; yet mankind are in pursuit of other specifics for the disease, as if specifics were more common than diseases; while, at the same time, they are too often contented with the common mode of treating many other diseases for which they have no specific; and these prejudices are supported by the public, who have in their minds a dread of this medicine, arising from the want of knowledge of our predecessors in administering it; and many of the present age, who are equally ignorant, take advantage of this weakness.

Mercury in the constitution acts an all parts of the machine, cures those which are diseased, affecting but little those that are sound. Mercury is carried into the constitution in the same way as other substances, either externally by the skin, or internally by the mouth: it cannot, however, in all cases, be taken into the constitution in both ways; for sometimes it happens that the absorbents on the skin will not readily receive it, at least no effect will be produced, either on the disease or constitution, from such application; when this is the case it is to be considered as a misfortune, for then it must be given internally by the mouth, although possibly this mode may be very improper in other respects, and often inconvenient. On the other hand, it sometimes happens that the internal absorbents will not take up this medicine, or at least no effect is produced either upon the disease or constitution; in such cases it is right to try all the

different preparations of the medicine; for it will sometimes happen that one preparation will succeed when another will not. I have never seen a case where neither external nor internal applications of mercury were not absorbed; such a case must be miserable indeed.

I may just observe here, that many surfaces appear to absorb this medicine better than others; and most probably all internal surfaces and sores are of this kind; for when we find that thirty grains of calomel rubbed in on the skin has no more effect than three or four taken by the mouth, it becomes a kind of proof that the bowels absorb it best; also, when dressing a small sore with red precipitate produces a salivation, it shows that sores are good absorbing surfaces, especially too when we know that the lues venerea generally arises from a chancre.

A patient with a stump which produced too much granulations, was dressed with ointment containing a large proportion of red precipitate; the sore was about the size of a crown piece. It very nearly brought on a salivation, and the patient was obliged to leave it off.

A mulatto woman had upon her leg a very bad ulcer, which was about the breadth of two palms; it was dressed with red precipitate mixed with common ointment, which soon threw her into a violent salivation.

A lady, in the month of December, 1782, was burnt over the whole breast, neck, and shoulders, as also between her shoulders, on which part deep sloughs were formed. The sores at first healed nearly up, and tolerably well for burns; but they broke out anew, and then became more obstinate. Seven months after the accident she came to London, with very large sores extending across the breast, and upon each side to the shoulders; they were extremely tender and painful. They continued to heal for some time after she came to London; but she became ill, having been affected with extreme irritability, loss of appetite, sickness, and throwing up of her food and medicines. At this time the sores again began to spread, and became very large. After having been two months in town with little advantage, I tried warmer dressings, as basilicon, to some parts, to see if any advantage would arise from such treatment, and it was found that these parts healed rather faster than the others; but the soreness was so great, even from the mildest dressings, that they could only be used in part. I next tried red precipitate mixed with the ointment; and, that it might increase the pain as little as possible, I ordered only ten grains to two ounces of the ointment. This appeared to agree better with the sores than the ointment alone; and we were happy in having found a dressing which both hastened on the cure, and was easier than the former. But about the fourth or fifth dressing from beginning the use of the precipitate she began to complain of her gums; the next day began to spit, and by the seventh or eighth day the mouth was so sore, and the spitting so consider-

able, that, upon considering the case, we began to suspect that it might proceed from the red precipitate in the dressing. The gums, inside of the cheeks, and the breath, were truly mercurial. We immediately left off this dressing, except to a small corner, and had recourse to the former dressings. In a few days the effects of the mercury abated, and the sores looked more healthy than ever, and we again began to dress part of the sores with the ointment containing precipitate, which still agreed with them. When the mouth first became affected, she had not used much above one half of the ointment; and by the time we had discovered the cause, about three-fourths of it had been expended in dressings, so that there was not quite ten grains of precipitate applied; and although this took up seven or eight days, and the ointment must have been soon removed from the sore by the discharge, yet a considerable spitting was produced, which lasted above a month. It is hardly to be conceived that above a grain or two could really be taken into the constitution; for, when we consider the particles of precipitate were covered with ointment, and a vast discharge of matter, so as soon to remove this small quantity from the sore, we can hardly admit the possibility of more being absorbed; and if this idea of the quantity taken in is just, to what must we attribute the great susceptibility to the effects of the medicine? Was it the irritable state of the patient at the time? For the state of the constitution appeared to me to be that in which the locked jaw often takes place; and I often had this disease in my mind. The patient afterwards got well by the use of an ointment in which pitch was an ingredient. All this tends to show that sores and internal surfaces absorb better than the skin.

Besides the practicability of getting the medicine into the constitution in either way, it is proper to consider the easiest for the patient, each mode having its convenience and inconvenience, which arises from the nature of the constitution of the parts to which it is applied, or from certain situations of life of the patient at the time. It is therefore proper to give it in that way which suits these circumstances best.

To explain this further, we find that in many patients the bowels can hardly bear mercury at all, therefore it is to be given in the mildest form possible; also joined with such other medicines as will lessen or correct its violent local effects, although not its specific ones on the constitution at large.

When it can be thrown into the constitution with propriety by the external method, it is preferable to the internal, because the skin is not nearly so essential to life as the stomach, and therefore is capable of itself of bearing much more than the stomach; it also affects the constitution much less; many courses of mercury, which are absolutely necessary, would kill the patient if taken by the stomach, proving hurtful both to the stomach and intestines, even when given in any form, and joined with the greatest correctors: on the other

hand, the way of life will often not allow it to be applied externally. It is not every one that can find convenience to rub in mercury, therefore they must take it by the mouth, if possible. To obviate the inconvenience often arising from the visible effects of mercury, many preparations have been invented; but any preparation of mercury producing an effect different from the simple effects of mercury in that constitution, such as sweating, or an increased discharge of urine, must be supposed either not to act as mercury, or the substance with which it is compounded produces this effect; but if its peculiar effects are less than usual, I should very much suspect that the mercury is acting in part as a compound, and not entirely as mercury.

Mercury, like many other medicines, has two effects, one upon the constitution and particular parts, which is according to its mode of irritation, independent of any disease whatever. The other is its specific effects upon a diseased action of the whole body, or of parts, whatever the disease be, and which effects are only known by the disease gradually disappearing. The first becomes an object of consideration for the surgeon, as it is in some measure by them he is to be guided in giving this medicine so as to have its specific effects sufficient for the cure of the disease.

Whatever injury mercury may do to the constitution, it is by its visible effects, and thence the pretended art in avoiding those visible effects has been too much the cause of great imposition. The part upon which its effects are most likely to fall is, the part that is in most cases attempted to be avoided, or guarded against, and that is the mouth. I believe that we are not possessed of any means of either driving the mercury to the mouth, or of preventing it from attacking that part. Cold and warmth are the two great agents mentioned by authors; we find them recommending the avoiding of cold, for fear the mercury should fly to the mouth, as if warmth was a prevention; while others, and even the same authors, when talking of bringing the mercury to the mouth, recommend warmth, as if cold were a preventive. This being the case, we may reasonably suppose that neither the one nor the other have any material effect.

In giving mercury in the venereal disease, the first attention should be to the quantity, and its visible effects in a given time; which, when brought to a proper pitch, are only to be kept up, and the decline of the disease to be watched; for by this we judge of the invisible or specific effects of the medicine, which will often inform us that some variation in the quantity may be necessary.

The visible effects of mercury are of two kinds, the one on the constitution, the other on some parts capable of secretion. In the first, it appears to produce universal irritability, making it more susceptible of all impressions; it quickens the pulse, also increases its hardness, producing a kind of temporary fever; but in many constitutions it exceeds this, acting as it were as a poison. In some it produces a kind of hectic fever, that is, a small quick pulse, loss of appetite,

restlessness, want of sleep, and a sallow complexion, with a number of consequent symptoms; but by the patient being a little accustomed to the use of it, these constitutional effects commonly become less, of which the following cases are strong instances.

A gentleman rubbed in mercurial ointment for the reduction of two buboes. He had only rubbed in a few times when it affected his constitution so much that it was necessary to leave it off. He was seized with feverish complaints of the hectic kind, a small quick pulse, debility, loss of appetite, no sleep, and night sweats. He took the bark, with James's powder, and asses' milk, and got gradually rid of these complaints. As the buboes were advancing, it was necessary to have recourse to mercury again; and I told him that now it would not produce the same effects so quickly, nor so violently as before. He rubbed in a considerable quantity without his constitution or mouth being affected; but the buboes suppurating, I ordered it to be left off a second time; and when they were opened he had recourse to the ointment again for the third time, and without producing any disagreeable effects. The buboes put on a healing disposition for a while, and then became stationary, showing that a new disposition was forming. He was directed to leave off the ointment and to bathe in the sea, which he did, and the buboes began to heal. In about three weeks, however, it was thought necessary to use more friction, and when he began, which was the fourth time, it had almost an immediate and violent effect upon his mouth; he left off again till his mouth became a little better, and then returned to the mercury a fifth time, and was able to go on with it.

A stout healthy man used mercurial friction for a bubo till it affected his mouth; it further brought on very disagreeable constitutional complaints, such as loss of appetite, watchfulness, sallow complexion, lassitude from the least exercise, and swelled legs; and although various means were used to reconcile the constitution to it, yet it continued to act as a poison.

Mercury often produces pains like those of the rheumatism, and also nodes which are of a scrofulous nature, from thence it has been accused of affecting the bones, "lurking in them," as authors have expressed it.

It may be supposed to be unnecessary to mention, in the present state of our knowledge, that it never gets into the bones in the form of a metal, although this has been asserted by men of eminence and authority in the profession; and even the dissections of dead bodies have been brought in proof of it; but my experience in anatomy has convinced me that such appearances never occur. Those authors have been quoted by others; imaginary cases of disease have been increased; the credulous and ignorant practitioner misled, and patients rendered miserable.

SECTION II.

Of the Quantity of Mercury necessary to be given.

THE quantity of mercury to be thrown into the constitution for the cure of any venereal complaint must be proportional to the violence of the disease. Two circumstances are, however, to be strictly attended to in the administration of this medicine; which are, the time in which any given quantity is to be thrown in, and the effects it has on some parts of the body, as the salivary glands, skin, or intestines. These two circumstances, taken together, are to guide us in the cure of the disease; for mercury may be thrown into the same constitution in very different quantities so as to produce the same ultimate effect; but the two very different quantities must be also in different times; for instance, one ounce of mercurial ointment, used in two days, will have more effect upon the constitution than two ounces used in ten; and to produce the same effect in the ten days, it may perhaps be necessary to use three ounces or more.

The effects, on the constitution, of one ounce, used in two days, are considerable, and also its effects upon the diseased parts; therefore a much less quantity in such a way will have greater effects; but if these effects are principally local, that is, upon the glands of the mouth, the constitution at large not being equally stimulated, the effect upon the diseased parts must also be less, which is to be determined by the local disease not giving way in proportion to the effects of the mercury on some particular part.

If it is given in very small quantities, and increased gradually, so as to steal insensibly on the constitution, its visible effects are less, and it is hardly conceivable how much may at last be thrown in, without having any visible effect at all.*

These circumstances being known, it makes mercury a much more efficacious, manageable, and safe medicine, than formerly it was thought to be; but unluckily its visible effects upon some particular parts, such as the mouth and the intestines, are sometimes much more violent than its general effect upon the constitution at large; therefore a certain degree of caution is necessary, not

* To give an idea of this, ten grains of the ointment used every day, during ten days, affected a gentleman's mouth. The ointment was of equal parts of mercury and hogs'-lard. But, by means of omitting the ointment occasionally, and returning to the use of it, he at last rubbed in eighty grains every night for a month, without having his mouth, or any of the secretions, visibly affected.

to stimulate these parts too quickly, as that will prevent the necessary quantity being given.

The constitution, or parts, are more susceptible of mercury at first than afterwards; if the mouth is made sore, and allowed to recover, a much greater quantity may be thrown in a second time, before the same soreness is produced; and indeed I have seen cases where it could not be reproduced by as much mercury as possibly could be thrown in. Upon a renewal of the course of mercury, therefore, the same precautions are not necessary as at first. We are, however, every now and then deceived by this medicine, it being hardly possible to produce visible effects at one time; and afterwards the mouth and intestines shall all at once be affected.

Mercury, when it falls on the mouth, produces in many constitutions violent inflammation, which sometimes terminates in mortification. The constitutions in which this happens, I suspect, are of the erysipelatous kind, or what are called the putrid; therefore in such greater caution is necessary. Mercury, in general, that is, where it only produces its common effects, seldom or never does any injury to the constitution. It should seem only to act for the time, and to leave the constitution in a healthy state. But this is not always the case, for probably mercury can be made to affect every constitution very materially, being capable of producing local diseases, as has been mentioned; and also capable of retarding the cure of chancres, buboes, and certain effects of the lues venerea, after the poison has been destroyed.

SECTION III.

Of the sensible Effects of Mercury upon Parts.

The sensible effects of mercury are generally an increase of some of the secretions, a swelling in the salivary glands, and increase of saliva; an increase of the secretion of the bowels, which produces purging, and an increase of the secretion of the skin, producing sweat, also often an increase of the secretion of urine. Sometimes one of these secretions only is affected, sometimes more, and sometimes all of them together. But the effects upon the mouth are the most frequent.

Mercury often produces headachs, and also costiveness, when its action on other parts becomes sensible, especially upon the glands of the mouth.

When the mercury falls upon the mouth, it does not affect all parts

of it equally, sometimes attacking the gums, at other times the cheeks, which become thickened, and ulcerate, while the gums are not in the least affected, as appears by the patient being capable of biting any thing hard.

Mercury, when it falls upon the mouth, and parts belonging to the mouth, not only increases the discharge of those parts, but it brings on great tumefaction, which is not of the true inflammatory kind, where coagulable lymph is thrown out, but rather resembling erysipelatous tumefaction. The tongue, cheeks, and gums swell, and the teeth become loose; all which effects are in proportion to the quantity of mercury given, and susceptibility of the parts for such irritation. It produces great weakness in the parts, in which ulceration easily takes place, especially if they are in the least irritated, which is often done by the teeth, and even mortification sometimes ensues. How far it produces similar effects when it falls on other parts, I do not know. The saliva, in such cases, is generally ropy, as if principally from the glands affected. The breath acquires a particular smell.

As mercury generally produces evacuations, it was naturally imagined that it was by this means that it effected a cure of the venereal disease; but experience has taught us, that, in curing the venereal disease by this medicine, evacuations of any kind, produced by it, are not at all necessary; and this might have been supposed, as similar evacuations, produced by other medicines, are of no service; therefore it was reasonable to imagine that these evacuations, when produced by mercury, were also of no service; except we could suppose that the evacuation, produced by the mercury, was not the same with that produced by other medicines, but that it was a specific evacuation; that is to say, a discharge carrying off the venereal poison by its union with the mercury; and therefore the faster the mercury went off, the sooner would the poison be carried out of the constitution. But this is not found to be the case in practice; on the contrary, evacuations produced by the medicine retard the cure, especially if the secretory organs are too susceptible of this stimulus; for then the quantity which is necessary, or sufficient for the cure of the disease, cannot be taken in, the effects of the medicine upon particular parts being greater than the patient can bear; and the quantity of mercury to be thrown into the constitution must be limited and regulated according to the quantity of evacuation, and not according to the extent of the disease. On the other hand, if it is given with care, so as to avoid violent evacuation, any quantity may be thrown in sufficient for the cure of the disease.

Certain evacuations may be supposed to be a mark of the constitutional effects of mercury; but they are not to be entirely depended upon, the secretions being only a proof of the susceptibility of some parts to such a stimulus; however, it is probable, that in general

they are a good gauge of its constitutional effects. Some have gone so far as to suppose that quantity of mercury alone, without any sensible effects, is sufficient for the cure of the disease; and this is in some degree the case, but not completely so, for we have no good proof of its affecting the constitution but by its producing an increase of some of the secretions.

SECTION IV.

Of the Action of Mercury.

Mercury can have but two modes of action, one on the poison, the other on the constitution; we can hardly suppose it to act both ways. If mercury acted upon the poison only, it might be supposed to be in two ways, either by destroying its qualities by decomposing it, or by attracting it and carrying it out of the constitution. If the first were the action of mercury, then we might reasonably suppose that quantity alone would be the thing to be depended upon; if the second, that the quantity of evacuation would be the principal circumstance.

But if it act upon the principle of destroying the diseased action of the living parts, counteracting the venereal irritation by producing another of a different kind, then neither quantity alone, nor evacuation, will avail much; but it will be quantity joined with sensible effects that will produce the quickest cure, which from experience we find to be the case. But although the effects that mercury has upon the venereal disease are in some degree in proportion to its local effects on some of the glands, or particular part of the body, as the mouth, skin, kidneys, and intestines, yet it is not exactly in this proportion, as has been mentioned. When mercury disagrees, as it were, constitutionally, producing great irritability and hectic symptoms, this action, or irritation, is not a counter-irritation to the venereal disease, but is a constitutional irritation, having no effect on the disease, which continues to increase. Mercury, losing its effects upon the disease by use, gives a proof that it neither acts chymically, nor by carrying off the poison by evacuation, but by its stimulating power.

The effects will always be in proportion to the quantity in a given time, joined with the susceptibility of the constitution to the mercurial irritation. These circumstances require the minutest attention; and in order to procure its greatest action with safety, and to procure this in the most effectual way, it must be given till it produces local effects somewhere, but not too quickly, that we may be able to throw

in a proper quantity; for local effects produced too quickly prevent the sufficient quantity being thrown in for counteracting the venereal irritation at large. I have seen cases where the mercury very readily acted locally, and yet the constitution was hardly affected by it, for the disease did not give way.

A gentleman had a chancre, which he destroyed with caustic, and dressed the sore with mercurial ointment. He had also a slight uneasiness in one of his groins, which went no further, but which showed an absorption of the poison. The chancre soon healed, and he rubbed in about two ounces of mercurial ointment. He began this course with small quantities, that is, a scruple at each rubbing, and increased it; however it soon affected his mouth, and he spit for about a month. Two months after he had a venereal ulcer in one of his tonsils. Here was a considerable sensible effect from a small quantity of mercury, which proved ineffectual, because its specific effects, as I apprehend, were not in proportion to its sensible effects; the salivary glands being too susceptible of the mercurial irritation.

On the other hand, I have seen cases, where quantity did not answer till it was given so quickly as to affect the constitution in such a manner as to produce local irritation, and consequently sensible evacuations, which is a proof that the local effects are often the sign of its specific effects on the constitution at large, and shows that the susceptibility of the diseased parts, to be affected by the medicine, is in proportion to the effects of it upon the mouth. Its effects are not to be imputed to evacuation, but to its irritation, therefore mercury should be given, if possible, so as to produce sensible effects upon some parts of the body, and in the largest quantity of mercury that can be given to produce these effects within certain bounds; and that these sensible effects should be the means of determining how far the medicine may be pushed, in order to have its best effects upon the disease without endangering the constitution. The practice here must vary according to circumstances; and if the disease is in a violent degree, less regard must be had to the constitution, and the mercury is to be thrown in in large quantities; but if the disease be mild, it is not necessary to go beyond that rule, although it is better to keep up to it on purpose to cure the disease the sooner.

If the disease is in the first order of parts, a less quantity of mercury is necessary than if it were in the second order of parts, and had been of long standing, with its first appearances only cured, and the venereal disposition still remaining in the secondary parts. To cure the disease, whether in the form of chancre, bubo, or lues venerea, probably the same quantity of mercury is necessary; for one sore requires as much mercury as fifty sores in the same person, and a small sore as much as a large one; the only difference, if there is any, must depend upon the nature of the parts affected, whether naturally active or indolent. If there be any material difference between the recent and constitutional, which, I apprehend, there is, it may make a dif-

ference in the quantity. I do conceive that the recent are upon the whole more difficult to cure; at least they commonly require longer time, although not always.

Having thus far premised these general rules and observations, I shall now give the different methods of administering mercury.

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We have so much anticipated this part of the work, that we shall have few remarks to make, and those few will be principally to show that a mind capacious enough to confine to certain laws those actions in which our complicated machine deviates from, and returns again to its ordinary course, should still feel so conscious of the possibility of error as to wish as far as possible to reconcile his discoveries with established practices. The whole doctrine of cure is reducible to a simple law, which daily experience confirms, viz. that the constitution has no power to alter the action excited by the venereal disease; yet as the disease only exists in the action excited by it, and as two actions cannot be carried on at the same time in the same parts, or in the same constitution, so if a greater action is excited than the venereal action, the latter must be superseded. But to secure this we should not only excite a considerable action, but one which will occupy every part in which the venereal action formerly existed. We must also be certain that this new action being disease, may be such as will gradually cease when the means by which it was excited are no longer applied.

Under these circumstances, what are the fair, not to say the necessary inferences?—That you must excite the mercurial action as quickly as you can, keeping it up a longer or shorter time, in proportion as the venereal action, by having continued a longer or shorter time, may have extended its local influence further, and have habituated the constitution to such an action. The quantity of mercury required for this must depend on the constitution, concerning which we must gain all the information we can, and also watch the condition of it as long as we find it necessary to continue the remedy. Provided the constitution is so affected by the mercurial action as to supersede the venereal action, the quantity of mercury used can be of no consequence. The illustration given by Mr. Hunter, [p. 320] that the mercurial irritation is not to be induced too quickly, that we may be able to throw in a proper quantity, is evidently a concession to the prejudices entertained before he had taught us to think justly on the subject. The patient was cured of the chancre, which never returned. The throat must have been contaminated, whilst the chancre existed, for after that was healed, there was no source of contamination. The disposition being thus formed, the action commenced about the usual period after the mercurial irritation ceased; in other words, no mercury being used to hinder it, whilst the chancre existed, a disposition was formed, and the subsequent use

of mercury could not cure that disposition. The case, as related, forms a just illustration of the doctrine; but the inference is either contradictory to the doctrine, or absolutely unintelligible. The second paragraph of the following section shows that the effect produced by mercury is all that the author seemed to think of importance. All the other observations on mercury are such as we might expect from so accurate an observer.

SECTION V.

Of the different Methods of giving Mercury externally—internally.

Previously to the giving of mercury, it is very proper to understand, as much as possible, the constitution of the patient with regard to this medicine, which can only be known in those who have already gone through a mercurial course; but as many of our patients are obliged to undergo this treatment more than once, it becomes no vague inquiry; for as there are many who can bear this medicine much better than others, it is very proper that this should be known, as it will be a direction for our present practice. I think that few constitutions alter in this disposition; although I knew one case which admitted of a considerable quantity at one time without being visibly affected; but about a twelvemonth after, the patient was affected with a very little.

When mercury is given to cure the lues venerea, whatever length we mean to go in the sensible effects of it, we should get to that length if possible, and we should keep up to it; for we shall find it difficult to bring its effects to that standard again, if we allow it to get below it. If the mercury should get beyond what we intended, we should be very much upon our guard in lowering it; and should probably begin to give it again before its effects are reduced to the intended standard: for the same quantity now will not operate so powerfully as before; insomuch that what at first produced greater effects than was intended, will not be sufficient afterwards.

Mercury is best applied externally, in form of an ointment. Unctuous substances keep it divided, attach it to surfaces, and do not dry; it may also be supposed that they become a vehicle for the mercury, and carry it through the absorbents to the general circulation; for it is probable that oil is as easy of absorption as watery substances.

If the symptoms are mild in the first order of parts, and the patient not accustomed to mercury, or it is known that he cannot bear the medicine in great quantity, and it is intended to conduct the cure by almost insensible means, it is proper to begin with small quantities.

One scruple, or half a drachm, of an ointment made of equal parts of quicksilver and hog's-lard, rubbed in every night, for four or six nights, will be sufficient to begin with. If the mouth is not affected, the quantity may be gradually increased till two or three drachms are rubbed in at each time; but if the first quantity has affected the mouth, we may be almost certain that the glands of the mouth are very susceptible of the mercurial stimulus; therefore it will be proper to wait two or three days till that effect begins to go off.

When we begin the second time, the quantity may be gradually increased, at least a scruple every time, till two drachms or more are rubbed in each night, which may be done without affecting the patient very considerably a second time, as has been already observed.

If all the symptoms gradually disappear, there is no more to be done but to continue this practice for a fortnight longer, by way of security.

This method, steadily pursued, will cure most recent cases of lues venerea; but it is not sufficient if the disease has been merely kept under by slight courses of mercury: a greater quantity becomes necessary, from a kind of habit the constitution has acquired, by which it is rendered less susceptible of the mercurial stimulus.

If the disease should return in the second order of parts, we may be certain the same quantity of mercury will not be sufficient to cure them, their action being slow under the venereal irritation, therefore requiring more than what had been first given.

I may be allowed to remark, that, where the venereal symptoms have been ulcers in the mouth or throat, I have suspected that the mercury being brought to the mouth, and the saliva being impregnated with it, and acting as a mercurial gargle, cured those parts locally; and that the constitution has remained still tainted; the mercurial action in it having been much inferior to what it was in the mouth. Perhaps something similar may take place in eruptions of the skin where the mercury passes off by sweat; for we know that sulphur will cure the itch by passing off in perspiration. If these are facts, then it may in some degree account for the local symptoms in the first order of parts being easier of cure than those in the second.

The manner of living under a mercurial course need not be altered from the common, because mercury has no action upon the disease which is more favoured by one way of life than another. Let me ask any one what effect eating a hearty dinner, and drinking a bottle of wine, can have over the action of mercury upon a venereal sore, either to make it affect any part sensibly, as falling upon the glands of the mouth, or prevent its effect upon the venereal irritation? In short, I do not see why mercury should not cure the venereal disease under any mode whatever of regimen or diet.

I own, however, that I can conceive cold affecting the operations

of mercury upon the venereal disease; it is possible that cold may be favourable to the venereal irritation, and therefore contrary to that produced by mercury; and there is some show of reason for supposing this: for I have before asserted, that cold was an encourager of the venereal irritation; and therefore keeping the patient warm may diminish the powers of the disease while under the cure.

Mercury, given internally, is in many cases sufficient, although in general it is not so much to be depended on as the external application; therefore I would not recommend it, or give it in cases where the disease has not been sufficiently cured by former courses of mercury It is the most convenient way of giving this medicine; for many will swallow a pill who do not choose to rub the body with the ointment: indeed, there are many circumstances in life which make this mode of introducing it into the constitution the most convenient; but, on the other hand, there are many constitutions that cannot bear mercury given internally. When these two circumstances meet in the same patient, it is unfortunate.

Mercury, taken internally, often produces very disagreeable effects upon the stomach and intestines, causing sickness in the one, and griping and purging in the other.

If it be found necessary to give it internally, and it disagrees either with the stomach or intestines, or both, even in the most simple preparation, its effects, whatever they are, must be corrected or prevented, by joining with the mercury other medicines. If it affect the stomach only, the mercury may be joined with small quantities of the essential oils, as the essential oil of cloves, or camomile flowers, which will in many cases take off that effect. If it disagree both with the stomach and bowels, which I believe arises either from the mercury meeting with an acid in the stomach, by which part of it is dissolved, forming a salt, or from being given in the form of a salt, both of which will generally purge, and become the cause of their own expulsion. There are two ways of obviating these effects: the first is, by preventing the salt from forming; the second, by mitigating its effects on the intestines, if forming, by taking off their irritability. To prevent the salt from forming, the best way is to join the mercury with alkaline substances, either salts, or earths; and when given in a saline state, it may be joined with opium, or some of the essential oils.

To prevent the formation of the salt, take of the preparations of mercury, such as mercurius calcinatus, mercurius fuscus, or calomel, forming them into pills, with the addition of a small quantity of soft soap, or any of the alkaline salts; the alkaline salt also prevents the pill from drying: or, instead of these, a calcareous earth may be joined with the mercury, such as chalk or crabs'-eyes: upon this principle is the mercurius alkalizatus, which is crude mercury, rubbed down with crabs'-eyes. But these substances add considerably

to the bulk of the medicine, no less than twenty grains being necessary for a dose; which contain seven grains and a half of crude mercury. The mercurius calcinatus, rubbed with a small portion of opium, makes an efficacious pill, and in general agrees well both with the stomach and bowels. Opium has long been joined with mercury to cure the venereal disease. By some as much has been attributed to the opium as the mercury: however, opium should be given with care, for it is not every constitution with which it agrees, often producing irritability, in some lassitude and debility, in others spasms.

If the mercury is not given in the above manner, but in the form of a salt, or the salts are allowed to form, then it should be joined with one third of opium, and a drop of the oil of cloves, or camomile, which will make it agree with the stomach, and prevent its purging; or, if it is found still to disagree both with the stomach and bowels, compound it still further, by joining with the mercury the alkaline salts, the opium, and some essential oil.

A grain of mercurius calcinatus made into a pill, with the addition of such medicines as the stomach or bowels may require, may be given every night for a week; and if in that time it has not affected the mouth, it may be repeated evening and morning; and after the patient has been accustomed to the medicine, and it is found not to fall much upon the mouth, it may be increased to two grains in the evening, and one in the morning.

The same directions hold equally good, either with the mercurius fuscus, or calomel; but it requires more of these last preparations of mercury to have the same medicinal effect upon the disease, than of the before mentioned; perhaps the proportion of their effects are about two or three to one. Why this should be the case is probably not easily accounted for, the quantity of mercury being very nearly the same in a given weight in both, for in eight grains of calomel there are seven grains of crude mercury. Three grains of these preparations appear only equal to one of the mercurius calcinatus. The crude mercury, given in the same quantities with either of the former, appears the least efficacious of all; for fifteen grains of crude mercury, rubbed down with any mucilage, seems only equal to one or two of the mercurius calcinatus.

The corrosive sublimate, which is a salt capable of stimulating violently, is generally given in solution in common water, brandy, or some of the simple waters, and has been used with the appearance of considerable success. It would appear that it removes ulcers in the mouth, as soon, if not sooner, than any of the other preparations; but this, I suspect, arises from its application to these parts in its passage to the stomach, acting upon them locally as a gargle; however, from experience, it appears not to have sufficient powers over the venereal irritation; in recent cases only removing the visible local effects, without entirely destroying the venereal action; for many more

have been found to relapse, after having taken this preparation, than from many of the others; which is owing to its passing very readily off by the skin. Besides, it disagrees much more with the stomach and intestines than any of the other preparations.

A grain of this medicine, dissolved in about an ounce of some fluid, is generally the dose, and increased according as it agrees with the bowels, and according to its effects upon the mouth, and disease.

As corrosive sublimate contains an acid, and as you must be guided by the effects of the acid on the bowels, the quantity of mercury you can give in this form is necessarily smaller than in the other preparations. Ward's drop, containing less acid, can be given in larger quantity, and is more efficacious on that account. Perhaps any of these preparations, united with a scruple of gum guaiacum, may have more effect than when given alone; since guaiacum is found to have considerable effects on the venereal disease.*

This practice, continued for two months, will in general cure a common lues venerea; but here it is not meant that any time should be specified. After all the symptoms of the disease have disappeared, this course should be continued at least a fortnight longer; but if the symptoms disappear very suddenly, as they often do, perhaps within eight or ten days, probably from the medicine going off by those surfaces where the disease appears, the medicine should be continued three weeks, or perhaps a month longer, and the dose increased. In such cases the visible local effects appear to be cured, while a venereal disposition remains in the parts.

Various are the preparations of mercury recommended for internal use, while practitioners have generally been satisfied with but one for external application. Every practitioner finds some one of the preparations answering better to appearance in some one case than another, which casts the balance in favour of that medicine in his mind; or others, finding the bad effects of a particular preparation at some one time, have generally condemned that preparation; not to mention that deceit is often practised in the cure of this disease. One would naturally suppose that the simplest preparation is the best, that which is easiest dissolved in the animal juices, does least mischief to the stomach, or general health, and is least disturbed or hindered in its operations; for we can hardly suppose that any substance joined with mercury, which alters either its chymical or mechanical properties out of the body, can add to its power in the body, except a substance which had a similar power when acting alone. The preference generally given to the ointment shows this; and if we could find a preparation still more simple than the ointment, that preparation should be used in preference to the crude mercury.

* See pages 231, 237.

SECTION VI.

Of the Cure of the Disease in the second or third Stage.

In the more advanced stages of the disease the mercurial course must be pushed further. The greatest medicine that the patient can bear at a time is to be thrown in, and continued with steadiness till there is reason to suppose the disease is destroyed. It will not be possible in such cases to prevent the mouth from being considerably affected, the quantity of mercury necessary to be used for the cure of these stages of the disease being such as will, in most cases, produce that effect.

Before the disease has advanced so far, the patient most probably has taken mercury, and it is proper to inquire how he has been affected by it, and what quantity of it he can bear, which will, in some degree, direct us in the quantity now to be begun with. If the patient has not taken mercury for a considerable time, and is easily affected by it, which is the case that admits of the least quantity, it will be necessary to begin cautiously, regulating the quantity according to circumstances; but, if the person has taken mercury lately, although easily affected by it, more freedom may be used on returning to it, because it will have less power on his mouth, as also on the disease; again, if the person has been taking mercury very lately, and is with difficulty affected by it, which is the case that admits of the greatest quantity, then it may be administered freely so as to affect the constitution in the proper time. If the mercury is brought to the mouth in six or eight days, and a considerable soreness is produced in twelve, it will, in general, be a good beginning. In such cases the constitution is, if possible, to be surprised by the medicine, so as to produce its greatest effects; but with such caution as to be able to keep up these effects by quantity.

Mercurial friction will answer better than mercury given internally; for in this way, we are surer of throwing in a larger quantity in a given time, than could be taken internally without hurting the stomach.

The quantity of mercury applied in this way should be under certain circumstances, in an inverse proportion to the surface on which it is applied, and the surface should be completely covered with the ointment; for half an ounce of mercurial ointment, rubbed in upon a given surface, will have nearly the same effect as one ounce rubbed in on the same surface; therefore, one ounce, to have double the effect, should have double the surface. The quantity of ointment must therefore be adapted to the quantity of surface; for, on a certain extent of surface, no more than a determined quantity of ointment can be applied so as to be absorbed; and applying a greater

quantity would be useless; and if the quantity of surface is greater, the same portion of ointment cannot be diffused so as to employ fully all the absorbents. Every surface which is used may therefore have its full quantity of ointment, but certainly should not have more, if we are to attribute the effects of the mercury to the quantity.

It has most probably been always the practice to rub the mercury well in, as it is termed; but I suspect that this arose rather from an idea of the surface being porous like a sponge, than of absorption being performed by the action of vessels; and it is probable, that this action in the vessels producing absorption may be rather disturbed than excited by friction.

How long the course is to be followed, is not to be exactly ascertained; it may be thought proper to continue it till the local appearances, as nodes, have subsided; but I suspect that this is hardly necessary, except they give way readily; for in such cases, the local complaints, or tumefaction, &c. generally require a longer time to be removed than the venereal action; and local applications must be of service, especially if such tumefactions are obstinate.

The manner of living, under such a severe course, which is in every respect weakening, is to be particularly attended to; the patient must be supported; and the local effects of the medicine, in the mouth, preventing his taking any kinds of nourishment, especially such as are of a solid form, fluids must form his only nourishment, and these should be such as will become solid after they are swallowed; milk is of this kind. An egg beat up with a little sugar, and a little wine; sago, salop, &c. form a proper diet. In many cases, wine and bark must be given through the whole course. Sugar is, perhaps, one of the best restoratives of any kind we are acquainted with when a constitution has been very much debilitated by long fasting, from whatever cause, whether from the want of food when in health, or in the time of disease, or where the food has not been allowed to answer the constitutional waste, as in a course of mercury; and when the disease, or course of mercury is gone, then sugar will restore such constitution probably better than any thing else.

Although it is not a common opinion, and therefore not a common practice, to give sugar entirely with this view, yet there are sufficient proofs of its nutritive quality over almost every other substance. It is a well-known fact, that all the negroes in the sugar islands become extremely lusty and fat in the sugar-cane season; and they hardly live upon any thing else. The horses and cattle that are allowed to feed upon them all become fat. The hair of the horse becomes fine. Birds who feed upon fruit never eat it till it becomes very ripe, when it has formed the greatest quantity of sugar; and even then only on such as furnish the largest quantity of sugar. Insects do the same; but we cannot have a stronger instance of this fact than in the bee. Honey is composed of sugar, with some other juices of plants, with a little essential oil; but sugar is the principal

ingredient. When we consider that a swarm of bees will live a whole winter on a few pounds of honey, keep up a constant heat about ninety-five or ninety-six degrees, and the actions of the animal œconomy equal to that heat, we must allow that sugar contains, perhaps, more real nourishment than any other known substance.

We see too that whey is extremely fattening, which is the watery part of the milk, containing neither the oil, nor the coagulable matter; this arises principally from the sugar it contains; for, being composed of the watery part, it holds all the sugar of the milk in solution. If the milk is allowed to become sour, it is not so fattening, because it is the sugar which is become sour.

Although the nutritive qualities of sugar have not been so generally known as to introduce it into universal practice, yet they have not entirely escaped the notice of practitioners. Mr. Vaux, from observing the negroes in the West Indies growing fat in the sugar season, has been induced to give it in very large quantities to many of his patients, and with very good effects. Honey is, perhaps, as good a mode of taking this substance as any: sweetening every thing that is either eat or drunk, whether by sugar in honey, or sugar alone, is probably immaterial; yet it is probable that the other ingredients in honey may add to its nutritive quality.

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These remarks on supporting the constitution must be attended to with great caution. It cannot be questioned that there are constitutions so irritable, as to render a mercurial course highly dangerous; and these must be supported by every possible means. In these there is no doubt that the mercurial action will be sufficient to supersede the venereal; and there is even danger of the patient's life, from too high an excitement. But, in common cases, it is absurd to attend too closely to supporting the patient. A certain degree of irritation must be produced, and every attempt at checking it by bark is not only useless, but protracts the cure, by lessening the susceptibility of the constitution to the effects of mercury.

When the irritation is excited high enough to supersede the disease, we cannot be too diligent in restoring our patient by every means which will add to his strength, and lessen his irritability.

It may be right to make one other remark in this place: though it is certain that a constitution, which has lately been under the influence of mercury, is, for the most part, less susceptible of its impression, yet there is a state in which, after *very frequent* courses, its susceptibility is such, that it becomes dangerous to administer a quantity, however minute, and in whatever form. It would appear as if the mercurial irritation had at length become so habitual, as to require only the slightest stimulus for the constitution to fall into it. In these cases, the brain generally suffers very considerably. There is a remarkable similarity in this respect, between the effect of ardent

spirits and mercury. To both we may be habituated to a certain degree; but, if carried beyond that, the consequence is, that the constitution cannot bear the slightest impression from either.

SECTION VII.

Of Local Treatment.

If the local effects have gone no further than inflammation and swelling, either of the soft or hard parts, most probably no local treatment will be necessary; for the treatment of the constitution will, in general, remove them entirely.

It sometimes, however, happens that the local complaints will not give way, but the parts remain swelled in an indolent and inactive state, even after there is every reason for supposing the constitution is perfectly cured.

In such cases, the constitutional treatment is to be assisted by local applications of mercury to the part, either in the form of a plaster or ointment. The latter is by much the best mode. If these are not sufficient, as often happens, we must endeavour to destroy this disposition, by producing an inflammation of another kind. I have seen a venereal node which gave excruciating pain, cured by an incision only being made down to the bone, the whole length of the node; the pain has ceased, the swelling has decreased, and the sore healed up kindly, without the assistance of a grain of mercury. Blisters have been applied to nodes with success; they have removed the pains and diminished the swellings; so far furnishing a proof, that local treatment may assist mercury in many cases.

This treatment has not only been used to assist mercury in those cases where the medicine did not appear to be equal to the disease, but it has been used at the commencement of the cure, and even before mercury had been applied; but it was still thought necessary to go through the same mercurial course, as if nothing had been done to the local complaints.

It may be asked, what advantage arises from the incision, or application of the blister? The advantage is immediate relief from violent pains; and, as there are two powers acting, it is natural to suppose the cure will be more speedy.

After all the above-mentioned trials, it may happen, that the local effects shall still remain, forming, as it were, a new disease, which mercury may increase; and therefore other methods of cure may be tried, as will be described hereafter.

SECTION VIII.

Of Abscesses—Exfoliation.

When an abscess forms in a node in the periosteum, the bones are generally affected and make part of the abscess. Great attention should be paid to them; for suppurations in them are not like suppurations in common abscesses, they are seldom produced from the true suppurative inflammation, and therefore are slow in their progress, rarely producing true matter, but a mucus, something resembling slime, which lies flat upon the bone. This circumstance makes it difficult to determine when suppuration has taken place, and, in many cases, to detect matter even where it is formed. Another circumstance, which renders the presence of matter in such cases doubtful, is, that the progress of the disease is generally checked very early by the use of mercury. This matter is often re-absorbed during a mercurial course; and it is proper, particularly in an early state of the complaint, to give it this chance; but if the absorption does not take place, and the complaint is in an advanced state, it must be opened.

The surgical treatment of the parts, under such circumstances, is the same as in other diseases of these parts. Opening with great freedom is absolutely necessary; for, the more parts are exposed, the more inclinable they are in general to heal, and still more so here; for violence assists in destroying the venereal disposition. No skin, covering a bone, should be removed from an abscess, especially in the lower extremities.

If the abscess is opened freely, and an exfoliation takes place, which is generally the case, it is to be treated as any other exfoliation. Exfoliations succeed much better here than in many other cases, because the disease from which they proceed can generally be corrected, which is not the case in many diseases of bones where exfoliation takes place. Cases, however, sometimes occur, in which, after the venereal disposition has been corrected, another disease takes place in the bone, the nature of which will be explained when we shall consider the effects remaining after the disease is cured, and the diseases sometimes produced by the cure.

SECTION IX.

Of Nodes on Tendons, Ligaments, and Fasciæ.

The observations made on the nodes of the periosteum and bones are applicable to swellings and suppurations of the ligaments and fasciæ; but it is still more difficult to ascertain the presence of matter in them than in the former.

When a thickening only of the ligaments or fasciæ is the consequence of the disease, it is very obstinate, as in many cases the diseased part may be cleared of all venereal taint, and still the swellings remain. Blisters may often be applied here with success; but if they fail, then it will be absolutely necessary to make an incision into the part, to excite a more vigorous action; for although the complaint has nothing venereal in it, nor is any contamination to be feared from it in future, yet as it leaves often very obstinate and disagreeable swellings, which neither give way to medicine nor time, it is proper to use every means for their removal.

SECTION X.

Of correcting some of the Effects of Mercury.

Formerly, when the management of mercury was not so well understood, nor its effects in this disease so well known as they are at present, it was generally supposed to act by evacuation from the salivary glands, and was therefore always given till that evacuation took place; and, as its effects in the cure were imagined to be in proportion to the quantity of this evacuation, it was pushed as far as possible, without endangering suffocation. From this treatment, it often happened in those constitutions which were very susceptible of the mercurial irritation, and in which the medicine produced much more violent effects on some particular secretions than could be wished, that recourse was obliged to be had to medicines correcting the effects of mercury; as these effects were often a hinderance to its being given in sufficient quantities for the cure of the disease.

I mentioned, when treating of the effects of mercury, that the sensible increase of the secretions produced by it were in the following order: first, of saliva, then sweat, then urine, and often of the mucus of the intestines, producing purging: I also observed, that when any of those secretions became too violent, the hand of the surgeon was

tied up till they were moderated. Attempts have been made to lessen those effects in two ways, either by the destruction of its power on the body in general, or by its removal, but neither of these means have succeeded. It never has once been thought necessary to attempt to lessen its powers on the organs of secretion, so as still to retain the same quantity in the constitution, or even to throw in more, which, if it could be effected, would be sometimes of great service; but, as we are not yet acquainted with powers sufficient for these purposes, we are obliged to observe great caution in our mode of giving the medicine.

I have endeavoured to shew that this medicine need not be given with a view to procure those evacuations; and that it may be given in any quantity without increasing either of those secretions in any evident degree; however, after every precaution, we may still be deceived, and the medicine will every now and then produce greater effects than were intended. It is very necessary, therefore, to seek for a preventive of the effects of mercury, when likely to be too violent; or to remedy those effects when they have already taken place.

The common practice, when mercury produced violent effects upon the intestines, was to counteract these effects; but this was not done with a view to retain the mercury in the constitution, but to relieve the bowels that were suffering by the action of the medicine; whereas, the proper practice would be to stop its progress here, as in every other outlet, that more mercury may be retained in the constitution.

Although these increased secretions arise from the constitution being loaded with mercury, yet there is no danger in stopping them, for they do not arise from an universal disposition becoming a local or critical one; and therefore, if such an action be checked or stopped in one place, it must necessarily fall upon some other; but it is from the part being more susceptible of this irritation than any other, and the quantity now in the constitution being equal to the susceptibility of the part; and therefore, though its effects are stopped here, it does not break out any where else, every other part being capable of supporting this quantity, and of remaining unaffected till more is thrown in.

When the mercury attacked the salivary glands, it increased that secretion so much, as in some cases to oblige practitioners to administer such medicines as were thought likely to remove this new complaint. This susceptibility of the glands of the mouth, and the mouth in general, to be easily put into action by this medicine, was generally supposed to arise from a scorbutic constitution, to which most complaints of the mouth are attributed. I am of opinion that scrofulous people, and those of a lax and delicate habit, are more subject to have it fall on the mouth, than those of a contrary temperament.

Purges were given upon a supposition that mercury could be car-

ried off by the evacuation produced by them, and they were repeated according to the violence of the effects of the medicine, and the strength of the patient: but I can hardly say that I ever have seen the effects of mercury upon the mouth lessened by purging; whether it arose spontaneously, was produced by purging medicines, or even when arising from the mercury itself. As this method was not found sufficient for the removal of the complaint, other medicines were tried; sulphur was supposed to be a specific for the removal of the effect of mercury. Whether this idea arose from practice or reasoning, is not material;* but I think I have seen good effects from it in some cases. If we can suppose purging of any service, purging with sulphur would answer best, as it would exert its effects both as a purge and a specific.

Sulphur certainly enters the circulation as sulphur, because our sweat and urine smell of it; if it does not combine with the mercury, and destroy its properties as mercury, it is impossible, agreeable to the opinion of those who first thought of giving it with this intention, that it may so combine, as to form æthiop's mineral, or something similar; for we know that the æthiop's mineral, however formed, does not, in general, salivate. It is possible, too, that sulphur may act as a contrary stimulus to mercury, by counteracting the effects of it in the constitution. Sulphur has even been supposed to hinder the mercury from entering the circulation. Upon the whole, as these preparations of sulphur and mercury are still supposed to have good effects, and as I think I have seen good effects in other cases, we must either allow that they enter the circulation, or that their whole effects are on the stomach and intestines, with which the rest of the body sympathizes. The good effects from sulphur in lessening or altering the immediate effects of mercury, can only take place when that medicine is really in the constitution; therefore, a distinction is to be made between such as arise immediately from mercury, and one continued from habit, after the mercury has been evacuated from the constitution; a case that sometimes happens, and which will be taken notice of in its proper place.

The taste in the mouth, from the use of mercury, has been known to go off, and not be perceived for a fortnight, and the same taste has recurred; this, I am informed, has happened twice to one gentleman, from the first quantity of mercury taken. To account for this is not easy; in whatever way it happens, it is a curious fact.

When the mercury has fallen upon the mouth and throat, washing those parts with opium has often good effects; for opium takes off irritability, and of course the soreness, which is one means of lessening

* Sulphur, united with any of the metals, probably destroys their solubility in the juices, or, at least, their effects in the circulation; none of the cinnabars act either as sulphur or mercury. Crude antimony, which is regulus and sulphur, has no effect. Arsenic, when joined with sulphur, has no effect; nor has iron.

the secretion. A drachm of tinctura thebäica to an ounce of water makes a good wash or gargle.*

When the mercury falls upon the skin, it is neither so disagreeable nor so dangerous, as when it falls upon the mouth; however, it may often happen that it will be proper to check such a discharge, both upon account of its being troublesome, and of its lessening the effects of the medicine in the constitution, by carrying it off. The bark is, perhaps, one of the best correctors of this increased secretion.

When the medicine attacks the kidneys and increases the secretion of those glands, it is not so troublesome as when it produces sweating, though it is possible that it may carry off the mercury too soon; but, as we have but few medicines that can lessen that secretion, in most cases it must be allowed to go on. The bark may, in such cases, be given with advantage.

When the mercury falls upon the bowels, it proves often more dangerous and troublesome than in any of the former cases, especially the two last; but it is, perhaps, most in our power to prevent or palliate. Opium should be given in such quantities as to overcome the complaint, and I believe will seldom fail of removing all the symptoms.

SECTION XI.

Of the Form of the different Preparations of Mercury when in the Circulation.

It would appear, from reason and many circumstances, that mercury must be in the state of solution in the juices of the body, before it can act upon the venereal disease; and, indeed, before it can act upon any other disease. That mercury is in a state of solution in our juices, and not in the state of any preparation of mercury, that we know of, is very probable from the following facts:

First, crude mercury, every salt of mercury, and calx of mercury, is soluble in the spittle, when taken into the mouth, by which means it is rendered sensible to the taste; from thence it must appear, that it is capable of solution in some of our juices.

Secondly, crude mercury, when divided into small parts by gum arabic, &c. so as to be easier of solution when taken into the sto-

* My using opium in this way was from analogy; finding that opium quieted the bowels when a purging came on in consequence of mercury, I tried it by way of gargle to the mouth, and found good effects from it, but not equal to those which it produced in the bowels.

mach, generally purges; but crude mercury, taken without such division, has no such powers, not being so readily dissolved in the juices of the stomach. The simple calx of mercury has the same effects,—purging; and much more violently, from being, I suppose, readier of solution in the animal juices; for, if it only purged from its union with the acid which happened to be in the stomach, it most probably would not purge more than crude mercury; although it is very probable, that the calx is easier of solution in a weak acid, than even the crude mercury.

Thirdly, every preparation of mercury producing the same effect in the mouth, and also having one and the same effect in the constitution, shows that they must all undergo a change by which they are reduced to one particular form. We cannot say what that form is, whether it is the calx, the metal, or any other that we are acquainted with; but it is probable that it is not any of them, but a new solution in the animal juices, peculiar to the animal itself. This is rendered still more probable by this circumstance, that every preparation of mercury put into the mouth undergoes the same change, and the spittle has the same taste from every one of them. If every different preparation of mercury had the same properties in the constitution that it possesses out of it, which we must suppose if it enters and continues in the same form, in that case the venereal poison must be eradicated in as many different ways as there are preparations. Crude mercury would act mechanically, by increasing the weight and momentum of the blood; the calx would act like brickdust, or any other powder that is heavy; the red precipitate would stimulate by chymical properties in one way, while the corrosive sublimate would act in another, and the mercurius flavus in a third; this last would most probably vomit as ipecacuanha does, which vomits whether thrown into the stomach or circulation.

Fourthly, all the preparations of mercury, when locally applied, act always in one way, that is, as mercury; but some have also another mode of action, which is chymical, and which is according to the specific nature of the preparation. The red precipitate is a preparation of this kind, and acts in both these ways; it is either a stimulant or an escharotic.

To ascertain whether this opinion of mercury being in solution in our juices was just, I made the following experiments upon myself. I put some crude mercury into my mouth, as a standard, and let it stay there, working it about, so as to render it easier of solution, till I tasted it sensibly; I then put into my mouth the mercurius calcinatus, and let it remain till I perceived the taste of it, which was exactly the same; but I observed that it was easier of solution than the crude mercury. I tried calomel in the same way, and also corrosive sublimate, after being diluted with water, and the taste was still the same. It was some time before I perceived the taste of the crude mercury in my mouth. I tasted the calx and calomel much sooner. The

corrosive sublimate had at first a mixed taste, but when the acid was diluted it had exactly the same taste with the former; all these different preparations producing the same sensation or taste in the mouth.

From the effects of these experiments it would appear, that the mercury in every one of them was dissolved in the spittle, and reduced to the same preparation or solution.

To try whether mercury in the constitution would produce the same taste in the mouth, I rubbed in mercurial ointment upon my thighs till my mouth was affected, and I could plainly taste the mercury; and, as far as I could rely upon my memory, the taste was exactly the same as in the former experiments.

I allowed some time for my mouth to get perfectly well and free from the taste; I then took calomel in pills till it was affected again in the same way. I afterwards took mercurius calcinatus, and also corrosive sublimate. All these experiments were attended with the same result; the mercury in every form producing the same taste, which was also exactly the same as when the several preparations were put into the mouth.

From the above experiments it must appear, that when mercury produces evacuation by the mouth, it certainly goes off in that discharge; and from thence we may reasonably conclude, that when other evacuations are produced from the medicine, when in the constitution, as purging, sweating, or an increased flow of urine, that it also goes off by these evacuations, which become outlets to the mercury.

From the above experiments, it appears to be immaterial what preparation of mercury is used in the cure of this disease, provided it is of easy solution in our juices, the preparations easiest of solution being always the best.

SECTION XII.

Of the Operation of Mercury on the Poison.

Mercury may be supposed to act in three different ways in curing the venereal disease. First, it may unite with the poison chymically, and decompose it, by which means its powers of irritation may be destroyed; secondly, it may carry it out of the constitution by evacuation; or thirdly, it may produce an irritation in the constitution which counteracts the venereal, and entirely destroys it.

It has been supposed that mercury acts simply by its weight in the circulating fluids; but of this we can form no adequate idea; and if it

were so, other substances should act on this disease in proportion to their weight, and of course many of them should cure it; but from experience we find, that such bodies as have considerable weight, as most of the metals, have no effect on this disease. We have no proof of mercury acting by a decomposition of the poison from any of the concomitant circumstances.

Mercury certainly does not cure the venereal disease by uniting with the poison and producing an evacuation. For in those cases where mercury is given in such a way as to produce considerable evacuations, or in those constitutions where evacuations are easily excited by mercury, its effects upon the diseased action are the least; and the same evacuations produced by any other means have not the least effect on the disease.

Whether the mercury be supposed to carry off the circulating poison, or to decompose it, in neither way could it produce, when locally applied, any effect on a venereal inflammation or sore arising from the constitution; for as long as any of the poison existed in the circulation, none of them could be healed by local applications, the circulation constantly carrying the poison to them; but we find the contrary of this to be true; for a venereal sore, arising from the constitution, may be cured locally.

The last or third of our modes of action of mercury seems to me the most probable, and for many reasons; first, because the disease can in many cases be cured by raising a violent stimulus of another kind; and perhaps if we could raise such a constitutional irritation without danger, as we often can in local cases, we might cure the venereal disease in the same manner, and in one quarter of the usual time. Secondly, we find that mercury acts as an universal stimulus, causing great irritability in the constitution, making the heart beat faster, and rendering the arteries more rigid, so as to produce a hard pulse, as has been already observed. It may further be said to produce a disease, or a peculiar or unnatural mode of action, in a certain degree. The following case will illustrate this. A gentleman had electricity recommended to him for some complaint he had. The electricity was applied, but without any visible effect. Besides the complaint for which he used electricity, he had a venereal one, for which he was first put under a course of mercury, and while under it the electricity was applied for the former complaint; but he had become so irritable that he could not bear the shocks of one half their former strength. But the most curious part of the case was, that the shocks had a much greater effect on the disease than what they had before when twice as strong, and he now got cured. This gave the surgeon a hint, and having another occasion to use electricity, also without effect, he put the patient under a gentle course of mercury, and then found the same effects from the electricity as in the former case, and the patient also got well.

The powers of mercury upon the constitution appear to be as the

quantity of mercury and the susceptibility of the constitution to be affected with it, without any relation to the disease itself; and we find that the power of mercury upon the disease is nearly in the same proportion. This fact gives us an idea of the irritation of mercury upon the constitution, and consequently an idea of administering it, and of the cure of any disease for which it is a remedy.

As we find that a given quantity of mercury produces double effects in some constitutions to what it does in others; also, that in those cases it produces its effects upon the disease, we are led to believe that it is this effect upon the constitution which cures the disease; and therefore if it did not produce this effect it would also not have performed a cure. I have already observed, that the cure does not go on exactly in proportion to the visible effects upon the constitution, except quantity in the medicine is joined with it; which, if true, would incline us to believe that there was something more than simply a constitutional stimulus, which most probably is a peculiar specific effect which is not regulated entirely by its visible effects either constitutional or local, although they appear to have some connection.

This fact being known, obliges us to be more liberal in giving mercury in those constitutions where it makes but little impression, than in those which it easily irritates; although in these last we must not be entirely regulated by its local effects, nor depend upon a commonly sufficient quantity, but be ruled by the sensibility of the constitution, and quantity joined; for in those where the constitution appears to be very susceptible of the mercurial irritation, where small quantities produce considerable local effects, it is still necessary to have quantity, although it is not so necessary to take the quantity in general that is supposed to be sufficient. We must be guided by the three following circumstances:—the disappearance of the disease, the quantity of irritation produced, and the quantity of the medicine taken.

SECTION XIII.

Of Gum Guaiacum and Radix Sarsaparilla in the Venereal Disease.

I HAVE hitherto only recommended mercury in the cure of the venereal disease; and indeed it is the only medicine to be depended upon. However, as both the guaiacum and sarsaparilla have been recommended as powerful remedies in this complaint, I took a favourable opportunity of trying their comparative powers in the venereal disease upon the same person.

The guaiacum* I found had considerable specific power over the disease; consequently, it may be of service in slight cases where it may be inconvenient or improper to give mercury on account of some other disease. These cases, however, I have not yet ascertained; or, it may be given in those cases where it is apprehended that the quantity of mercury necessary to subdue the disease, would be too much for the constitution to bear;—cases which sometimes occur. The sarsaparilla appeared to have no effect at all.

I shall relate exactly the case in which their comparative powers were tried. A man came into St. George's Hospital with venereal sores over almost his whole body: there were many excrescent sores in the armpits, some of which were about the size of a halfpenny; there were the same appearances about the anus, between the buttocks, along the perinæum, between the scrotum and thigh, where those parts came in contact with one another. Those upon the skin in general had the common appearance. I ordered a poultice of the gum guaiacum to be applied to the sores in the right armpit; also a poultice of a strong decoction of sarsaparilla and oatmeal mixed, to be applied to the left armpit. These poultices were changed every day for a fortnight; the excrescent sores in the right armpit were entirely healed, and become even with the skin, and covered with a natural skin, although somewhat discoloured; the sores in the left armpit, which were poulticed with sarsaparilla, were rather worse than when the poultice was first applied, as indeed were all the sores, except those in the right armpit. I then ordered the poultice of guaiacum to be applied to the left armpit, which was done, and the sores there also got well in a fortnight; I was now perfectly convinced that the gum guaiacum had cured these eruptions locally.

I next wished to see what effect the gum guaiacum would have upon the remaining sores when given internally, that is, those about the anus, scrotum, and on the skin in general. The patient began with half a drachm three times every day, which purged him; but this was prevented by joining it with opium. In about four weeks all the eruptions were cured, and he was allowed to stay in the hospital some time longer, to see if he would continue well; but about a fortnight after, he began to break out anew, and in a very short time was almost as bad as ever. I began a second time the gum guaiacum internally; but it had lost all its powers, or rather, the constitution was no longer affected by it. He was put under a course of mercury, and cured.

* The lignum guaiaci was imported by the Spaniards from Hispaniola, as a cure for the venereal disease, in the year 1517, having been given to one of them by a native.

CHAP. IV.

Of the Effects remaining after the Disease is cured, and of the Diseases sometimes produced by the Cure.

In treating of the local effects of the venereal disease, the gonorrhœa, and chancre, as also the bubo, I observed, that after the virus was destroyed, there remained in many cases some of the same symptoms, and particularly after the gonorrhœa. It was also observed, that though all the symptoms were entirely cured, yet they were liable to break out again. A gleet will appear, sometimes attended with pain, so as to resemble a gonorrhœa; after chancres there will be sores resembling them; and buboes after the virus is gone will not heal, but spread. In the lues venerea, the same thing often happens; especially if the inflammation and suppuration have been violent in the parts. These cases puzzle considerably; for it is difficult to say when the venereal virus is absolutely gone. In such doubtful cases, the treatment to be followed becomes more undetermined.

Such complaints are more common in the tonsils than in any other part; for we often find, that while a mercurial course is going on, and the ulcer on the tonsils healing, or even healed, they shall swell, become excoriated, and the excoriations shall sometimes spread over the whole palatum molle, which renders the nature of the disease doubtful. I believe these excoriations, as well as such other appearances of disease as come on during the use of mercury, are seldom or never venereal. In all such cases, I would recommend not to continue the mercury longer than what appears sufficient for overcoming the original venereal complaints, not considering those changes in the case as venereal. The bark is often of service here, and may be given either with the mercury, or after the mercurial course is over.

It often happens that venereal abscesses will not heal up, although they have gone a certain length towards it; for, while the venereal action remained in the part, the mercury disposed that part to heal; but, under that course, the constitution and part had acquired another disposition, proceeding from a venereal and mercurial irritation affecting a particular habit of body, or part, at the time; which new disposition differs from the venereal, mercurial, and natural, being a fourth disposition arising out of all the three. I suspect, however, that it depends chiefly on the constitution; because, if it was owing to the other two, we should always have the same disease; and what makes this opinion more probable is, that it differs in different people; at least, it is not cured in all by the same means. The constitution being predisposed, the other two become the immediate causes

of action. As soon as the venereal irritation is destroyed by the mercury, or becomes weaker than the other two, then the effects of the others take place. While the venereal action prevails, the mercury is of service, and the sore continues healing; but, when it is lessened to a certain degree, or destroyed, the mercury not only loses its powers, but becomes a poison to the new disposition that is formed; for, if mercury is continued, the sore spreads: it should, therefore, be immediately left off.

Some of the sores, formed in this way, not only resist all means of cure, but often inflame, ulcerate, and form hard callous bases, so as to put on the appearance of a cancer, and are often supposed really to be so.

We find, also, that new diseases arise from the mercury alone. The tonsils shall swell where no venereal disease has been before; the periosteum shall thicken, and also probably the bones, and the parts over them shall become œdematous and sore to the touch; but as these complaints arise while under a mercurial course, they are not to be reckoned venereal, but a new disease, although they are too often supposed to be venereal, and on that account the mercury is pushed as far as possible. In such cases, if the complaints for which the mercury was given are nearly cured, and the medicine has been continued a sufficient time after to complete the cure of those complaints, then of course it should be left off; and if there be any doubt, it should be left off rather sooner, than if no such complaint had taken place; because, it is probably producing a worse disease than the venereal; and if, after the cure of these complaints from the mercury, the venereal disease begins again to come into action, mercury must be given a second time; and now the constitution will be better able to bear it, especially if attention has been paid to the restoring the strength of it. Those diseases of the tonsils and periosteum I suspect to be of scrofulous origin.

Besides local complaints, arising from the combined action of the mercury, the disease, and the constitution, there is sometimes a constitutional effect, which is, a weakness, or debility, a languor, want of appetite, frequent sweats threatening hectic; but these happen mostly in those constitutions with which mercury disagrees. These complaints, local as well as constitutional, arise in some measure from weakness. They are difficult of cure, whether arising from a venereal chancre, bubo, or the lues venerea. Strengthening medicines are of most service: the bark is of great use, though in general not sufficient, as it can only more or less remove the weakness, the specific qualities still remaining. What these are, is, I believe, not yet known; but I suspect that many partake of the scrofula; and this opinion is strengthened by their frequently giving way to sea-bathing.*

* In a case of an ulcerated rib from a venereal cause, and five nodes on the shin-bone, of twelve months standing, a deep salivation of six months was un-

SECTION I.

General Observations on the Medicines usually given for the Cure.

A DECOCTION of the woods, among which are commonly included guaiacum and sarsaparilla, is one of the first medicines in the cure, and many of the cases yield to it, which gives them the credit of curing the venereal disease, while such diseases were supposed to be venereal. The sarsaparilla was often given alone, and was found to produce nearly the same effect. The good effects of it in one case gave it some reputation.* A diet-drink discovered at Lisbon was also of considerable service: and as it cured cases similar to those cured by the sarsaparilla, it was imagined that the diet-drink consisted principally of a decoction of this root. This was still on the supposition that all those cases were venereal; but it was observed at last, that those medicines did not cure this disease till mercury had been given, and in a tolerably large quantity. This was sufficient to lead some thinking minds to doubt whether they were venereal or not; and their being cured by different medicines ought to produce a conviction of their being different from the venereal disease, and that they are themselves of different kinds.

The mezereon has also been found to be of service in some symptoms of the lues venerea, such as nodes of the bones; but their being venereal was taken for granted. The mezereon is seldom given in venereal ulcers in the throat, or blotches on the skin, which of all the venereal symptoms are the most certain, and the most easy of cure; yet it was conceived that it removed such symptoms as are the most difficult of cure: but all those cases, in which the mezereon has been given with success, plainly appear not to have been venereal.

When the hemlock came into fashion in this country, it was given in almost every disease, and of course was tried in some of those complaints consequent to the venereal disease; and some of these it was found to cure, so that it now stands upon the list of remedies. Velno's vegetable syrup has had similar effects in some of these cases; and opium appears also to have many advocates. Opium, like the sarsaparilla, and mezereon, was supposed by its first introducers to cure the lues venerea;† but, like the sarsaparilla, it appears to have no

dergone, after fruitless attempts by gentle friction. None of the sores were healed by the mercury, and the patient was ordered to bathe in the sea, and take the bark. In three or four months the sores all healed up very kindly; but the side last of all.

* See "London Medical Essays," a case published by Mr. Fordyce, now Sir William Fordyce.

† See "Medical Communications," vol. I. page 307.

effect till mercury has done its best, or its worst.* It has certainly considerable effects in many diseases, both in such as are consequent to the venereal disease, and others arising from other causes.

It has been long a favourite medicine of mine, not only as relieving pain, for that is its common effect, but as a medicine capable of altering diseased actions, and producing healthy ones. In all sores attended with irritability, a decoction of poppy heads, made into a poultice, is an excellent application. Bleeding sores that do not arise from weakness, but from irritability, have the bleeding stopped immediately by this application. Mr. Pott is, I believe, the first who showed the world its use in mortifications. My first mode of applying it for the cure of diseases was locally, in which I found it had most salutary effects in some cases, and it was ordered afterwards internally upon the same principle, and it was also found to have salutary effects in this mode. In two cases that had been long suspected to be venereal, its effects were very remarkable; and, by its having cured them, it confirmed me in my opinion that they were not. But when I was informed that they cured the venereal disease in the army in America by opium, I then began to question myself, whether I had formed a right judgment of the nature of those two cases which were cured by opium. To ascertain whether opium would cure the lues venerea or not, I made the following trial at St. George's Hospital:

A woman was taken into the hospital with blotches on her skin, which had arrived to the state of scabs, and with well-marked venereal ulcers on both tonsils. A grain of opium was ordered to be taken the first night, two the second, and so on, increasing a grain every night, unless something should arise to forbid it. This was closely followed till the nineteenth night, when she was ordered a dose of physic, as she had become costive, and the opium was omitted. On the 20th she began again, and continued increasing the dose, as before, till it amounted to thirty grains, no alteration being produced in the sores, except what arose from the loss of time, whereby they were rather worse. I concluded, that if she had taken mercury to affect the constitution as much as the opium did, the venereal disease must have been nearly cured, or, at least, much lessened; but, as that was not the case, it convinced me that the opium had no effect whatever on the venereal disease. I then put her under a course of mercury, by friction, and in a short time it affected her mouth; the sores soon began to look better, and they went on healing without interruption, till the disease was cured. I may justly observe, the inconvenience from the opium was not considerable; for although it kept her quiet, she was not constantly dosing.

Luke Ward was admitted into St. Bartholomew's Hospital, January 12, 1785; his complaint was an ulcer in the throat of three months

* See a pamphlet published by Mr. Grant.

standing, which, both from its appearance and the symptoms which preceded it, seemed to be venereal. He was ordered two grains of opium twice a day, which he took a few days, without any other effect than that of sleeping better at night than usual, when the dose was increased to two grains three times a day. His throat now gave him less pain; but upon inspection was not found to be at all mended. After two days the dose was increased to three grains thrice a day; from this quantity he felt little or no inconvenience: he complained of being a little drowsy; his eyes were rather inflamed, and his face rather flushed. He continued to take this quantity for five days, and then it was increased to three grains four times a day. Next morning the redness and heat of his face was much increased, and had extended over his whole skin; he complained of pain in his head. His pulse was full and strong; he was bound in his body, and his belly was tense and painful. The opium was omitted, and such remedies as the present symptoms seemed to require were given, but without effect; all his symptoms continuing to increase till he died, which was on the fourth day after; during this time the ulcer increased much, and the discharge of saliva was so great as to resemble a slight salivation.

This case proves, in the first place, that the opium had no effect upon the ulcer in the throat; and, in the next, that it is a medicine capable of producing very violent effects on the skin, requiring therefore great caution in the mode of administering it.

John Morgan was admitted into St. Bartholomew's Hospital with an ulcerated leg. The common applications were tried for seven weeks, at the end of which time he was in every respect worse, having no sleep from constant pain, and he was sinking very fast. Two grains of opium were given every two hours, for twenty-three days; it made him hot and costive, and his pulse became strong and full, but without sleep or abatement of pain. The dose was increased to four grains every two hours in the day, and eight grains every two hours during the night. The effects were, costiveness, retention of urine, loss of appetite, an inflammatory disposition, no sleep, without any amendment of the ulcer. On the third day of taking the last-mentioned quantities, he awoke from a short sleep, delirious, and continued so for twelve hours, when it left him very weak, sick at his stomach, and with a low pulse. In three or four hours the delirium returned, and continued forty-eight hours; the pulse, on its return, immediately rose, and his strength returned to a very great degree. When it went off he fell into a sound sleep for about eight hours, and awoke very tranquil, though weak; no more opium was given, and the leg in the space of a month healed.

In the first twenty-three days he took twenty-four grains a day; for the last three days he took seventy-two grains a day. In twenty-six days he took seven hundred and sixty eight, which is nearly two ounces of opium.

Sarsaparilla, from the comparative experiment made with it and the guaiacum, it would appear to have no effect upon the venereal irritation itself, and therefore can be of no service till that irritation is destroyed; and as mercury is the antidote to that poison, and becomes one of the causes of the complaints in which sarsaparilla is useful, therefore, mercury is not only necessary to destroy the poison, but also assists in forming the diseases we are now treating of.

It is easy to conceive it in many cases to be of use in preventing the formation of the disease arising from mercury. When given along with the mercury it is often joined with the gum guaiacum, or the wood of the guaiacum, which we know will have some effect.

The sarsaparilla is generally given in form of a decoction, three ounces to three pints of water, boiled down slowly to a quart, and the half or whole is drunk every day, generally at three different times, often at meals. It is sometimes ground to a powder and taken every day with the same effect; but I should prefer the extract made into pills, as the easiest way of taking this medicine.

In many of these cases I have seen good effects from the hemlock, of which the following is an instance; and I would further refer the reader back to my observations on this medicine, which I gave when treating of the disease produced in consequence of a bubo, page 261.

A poor woman had undergone repeated salivations, which had always relieved the most pressing symptoms; but after that she was afflicted more or loss for three or four years, ulcers broke out in her nose, and all over her face, with what is called a true cancerous appearance. The sores became soon very deep, and gave very considerable pain. Mercury, sarsaparilla, and bark were given, without effect; the sores getting daily worse, the parts affected were ordered to be held over the steam of a decoction of hemlock every four hours, and as much extract to be taken internally as the patient could bear. She had sleep, and was free from pain the first night; and in a few days the sores put on a healing appearance. She lost her nose and one side of her mouth; but in six weeks time every part was skinned over. She remained well for three months, when the disease returned with redoubled violence, and soon destroyed her.

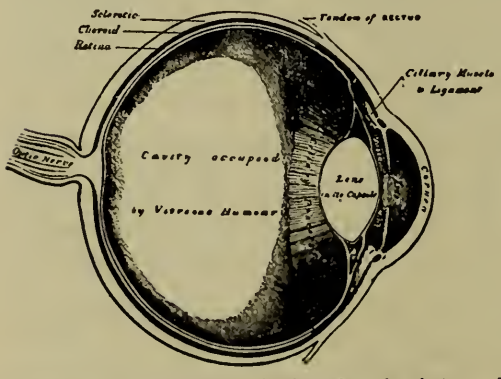
SECTION II.

Of the Continuance of the Spitting.

It sometimes happens that the spitting continues after there is every reason for supposing the mercury to be entirely out of the con-

The crystalline lens is situated behind the pupil, or opening in the iris. It is a transparent body, biconvex, or convex on both sides. It is enclosed in a capsule, and is held in place by the suspensory ligament. This lens is about a quarter of an inch in diameter. It separates the aqueous from the vitreous humor. The lens, acted upon by its muscular surroundings, has the power of increasing or diminishing its convexity, in order that a vision may be obtained of near or remote objects. The power imparted to the eye by the ciliary ligament, which dilates and contracts the iris, and by the suspensory ligament which increases or diminishes the convexity of the lens, is known as accommodation. By means of this faculty we can see objects far away as well as near at hand, for the rays of light are brought to a focus upon the retina whether we are reading a book or looking at some far away object. Some deficiency in the power of accommodation is a common fault of many eyes.

The motion of the eyeballs is due to six muscles, four recti and two oblique. The muscles of both eyes usually act in harmony. When the muscles do not act in harmony, owing to a loss of power, the result is a condition known as strabismus or squint. These muscles have their origin in the tissues about the apex of the orbits, and are inserted into the sclerotic a short distance back of the cornea. The oblique muscles run through a ring which acts as a pully, and increases the leverage. These muscles combine to give a wide range of motion to the eye.



Section of the eyeball showing its internal structure and the entrance of optic nerve.

The various appendages of the eye are worthy of notice in this connection. The eyebrows are prominent ridges of skin on the upper borders of the orbits. They support a growth of short hairs, and are connected with certain muscles which somewhat control the amount of light admitted to the eye. The eyebrows are often marks of beauty.

The eyelids are two thin folds which open and close to protect the eye from injury. The upper lid is larger and more movable than the lower. The skin of the eyelids is thin, and beneath it there is

some connective tissue, muscular fibers, cartilage, vessels, nerves and glands, lined up on the inside with a thin mucous membrane known as the conjunctiva. This not only lines the eyelids, but is reflected over the front portion of the sclerotic and cornea. That portion which covers the cornea is extremely delicate and does not appear to contain any blood vessels. Along the margin of each lid is a row of fine hairs, the eyelashes. The eyelids when open form an elliptical space, and the angles formed by the junction of the upper and lower lids are called the outer and inner canthus respectively. The inner canthus contains a small, triangular space, and on the margin of each lid is a little elevation with an orifice which is the commencement of the tear duct. Between the cartilage of the lids and the conjunctiva a row of glands is situated which may be seen by everting the eyelid, the Meibomian glands. There are between twenty and thirty in each lid. They open by means of little tubes on the borders of the lids. They secrete an oily fluid, which prevents the eyelids from sticking together. The eyelids are moved by means of delicate muscles which open and close the lids involuntarily, as in winking.

This act washes over the surface of the cornea, removes particles of dust, and also prevents the cornea from getting dry. The eyelids are abundantly supplied with delicate nerve branches and blood vessels.

In the inner canthus of the eye is a small, reddish, triangular elevation, containing a cluster of follicles, covered with mucous membrane. These follicles secrete a fluid substance which collects in the inner corner of the eye. The lachrymal or tear gland is about the size and shape of an almond, and is situated in a depression above the outer canthus or angle. Seven or more little ducts, opening at the reflection of the conjunctiva upon the sclerotic, connect this gland to the surface of the eye and convey the tears which it secretes. Unless the secretion is excessive this fluid is carried away in little canals into the cavity of the nose. But in excessive grief there is an overflow of these tears upon the face, as seen in the act of crying. Sometimes there is an obstruction of the canal which conveys away the tears, and then there is the condition known as watery or weeping eye. In old age the eye loses a great measure of its luster; the cornea and lens become flattened, rendering glasses a necessity for distinct vision. Near the outer margin of the cornea a grayish circle forms, called the "arcus senilis," and is the

PART VII.

OF DISEASES RESEMBLING THE LUES VENEREA, WHICH HAVE BEEN MISTAKEN FOR IT.

It was reserved for the penetrating mind of John Hunter, to make the first disclosure of all the arcana contained in the subsequent chapter. That he did no more is less surprising than that he did so much. The man who had ascertained the laws of the venereal disease, and every possible variety occasioned by whatever cause, through its progress and cure, could alone account for certain appearances which, in every stage, and in the means of cure, differed from that disease; and which we should take shame to ourselves for having confounded with it on the mere coincidence of a few events. My contemporaries must recollect the astonishment with which we heard, that Mr. Hunter could question, (for, at that time, we thought it unnecessary to question,) whether a disease received from another person producing a local ulcer, and, after a certain time, copper spots in different parts of the skin, whether such a disease was venereal. None of us thought it necessary to inquire, whether the first local ulcer had the true venereal character, why, in some instances, the whole should pass off without mercury? or why, in others, mercury should be useless or even injurious?

Whether Mr. Hunter ever conceived the idea of reducing these diseases to any order, cannot now be ascertained. Such an attempt did not make a necessary part of his work. It was, indeed, proceeding a great way, to describe accurately so many cases, and to show in what they each differed from the venereal character. Being the first writer who followed this inquiry, I am perhaps the fittest to ascertain how much he has instructed us in the mode of conducting it, which is all that he professed to do. Since the first edition of "Morbid Poisons," the controversy concerning the cure of syphilis by acids has convinced many of the necessity of accurately ascertaining a disease, before they determine on the effects of a remedy. Mr. Abernethy has added some valuable cases. Of all these I have availed myself in a second edition. Beside the anomalous morbid poisons, which have been confounded with the venereal, having had the opportunity of tracing two (yaws and sivvens) which are reducible to certain laws, I trust, the inquiry is now in that state in

which every new fact will find its proper place, and add to our knowledge. All that has occurred to me being already before the public, I shall, in this place, offer a very few remarks.

In all diseases in those parts in which we have reason to suspect the first symptoms of the venereal disease, our business is to trace, if possible, that peculiar character of the chancre, so accurately described by Mr. Hunter. When we are satisfied of this, we cannot too soon begin our mercurial course. If this character should not appear, we are to consider first, that a mercurial course is by no means a matter of indifference; next, that there are diseases in those as well as other parts, which are exasperated by mercury; and, lastly, that there are morbid poisons which must run a certain course, before they can be cured; that if that course is not rapid, it may be suspended by mercury, but that this suspension is worse than useless; the constitution is reduced, and the character of the disease so changed, that we can no longer ascertain what would have been its appearance had no mercury been used. This last is illustrated by yaws, as may be seen in every accurate writer on that disease. In all such cases, therefore, irreparable mischief is often done by a hasty application to mercury.

Lastly, there are others, which, though not venereal, will yield to no remedy or to none with so much certainty as mercury. These are for the most part easily distinguished by the rapidity of the ulceration, and the readiness with which it is stopped by a very slight exhibition of the remedy. Of this kind is the sivvens of Scotland.

The conclusion is, that when we perceive the hard edge and base of the chancre, we should apply to the specific immediately: but in all other cases, unless the ulceration is rapid, we should suspend the use of this important remedy, till we discover, as far as it can be discovered, the character of the disease.

CHAP. I.

Of Diseases resembling the Lues Venerea, which have been mistaken for it.

There is probably no one disease to which some other may not bear a strong resemblance in some of its appearances or symptoms, whereby they may be mistaken for each other. The situation of a complaint also may mislead the judgment. A lump, for instance, in the breast of a woman, may resemble a cancer so much as to be mistaken for one, if all the distinguishing marks of cancer are not well attended to. An ulcer on the glans penis, or in the throat, and nose, creates a suspicion of the venereal disease. Even the way in

which a disease is caught, becomes a cause of suspicion. The fluor albus in women sometimes produces a simple gonorrhœa in men. Drinking out of the same cup with a venereal patient was formerly supposed to be capable of communicating the lues venerea; but this notion is, I believe, now exploded. Of late years, a new mode of producing the venereal disease is supposed to have arisen; this is by the transplanting of a tooth, from the mouth of one person into the mouth of another. That such practice has produced diseases is undoubted; but how far it has been venereal remains to be considered.

Diseases which resemble others, seldom do it in more than one or two of the symptoms; therefore, whenever the nature of the disease is suspected, the whole of the symptoms should be well investigated, to see whether it agrees, in all of them, with the disease it is suspected to be, or only in part. This observation seems to be more applicable to the venereal disease, than any other; for there is hardly any disorder that has more diseases resembling it in all its different forms than the venereal disease: and when a disease resembles the venereal in some of its symptoms, but not at all in others, then those other symptoms are to be set down as the specific, or leading ones of the disease to which it belongs; the resembling symptoms to the venereal being only the common ones. But, if a disease is suspected to be venereal, though it is not perfectly marked, yet if it resembles the venereal in most of its symptoms, it must be supposed to be venereal, that being the most probable, although it is by no means certain; for, probably, the venereal can hardly be demonstrated in any case, especially in the form of the lues venerea, from its not having the power of contamination.

Although the venereal disease keeps its specific properties distinct in its several forms, yet its symptoms are in appearance common to many other diseases, and in that light it cannot be said to have any one symptom peculiar to itself. For instance, every symptom of the venereal disease, in form of a gonorrhœa, may be produced by any other visible irritating cause; and often without any cause that can be assigned: even buboes and swelled testicles, which are symptoms of this disease, have followed both stimulating injections and bougies, when applied to the urethra of a sound person; and indeed these two symptoms, when they do arise from a venereal cause, in many cases, are only symptomatic, not specific, but more especially the swelled testicle.

Sores on the glans penis, prepuce, &c. in form of chancres, may, and do arise without any venereal infection: although we may observe that they are, in general, a consequence of former venereal sores which have been perfectly cured.

The symptoms produced from the infection, when in the constitution, are such as are common to many other diseases; viz. blotches on the skin are common to what is called scorbutic habits; pains common to rheumatism, swellings of the bones, periosteum, fasciæ,

&c. to many bad habits, perhaps, of the scrofulous and rheumatic kind. Thus, most of the symptoms of the venereal disease, in all its forms, are to be found in many other diseases; therefore, we are led back to the original cause, to a number of leading circumstances, as dates, and its effects upon others from connection when only local, joined with the present appearances and symptoms, before we can determine absolutely what the disease truly is; for all these taken together, may be such as can attend no other disease. However, with all our knowledge, and with all the application of that knowledge to suspicious symptoms of this disease, we are often mistaken, often calling it venereal when it is not; and sometimes supposing it to be some other disease when it is venereal.

Rheumatism, in many of its symptoms, in some constitutions, resembles the lues venerea; the nocturnal pains, swelling of the tendons, ligaments, and periosteum, and pain in those swellings, are symptoms both of the rheumatism and the venereal disease, when it attacks those parts: I do not know that I ever saw the lues venerea attack the joints; though many rheumatic complaints of those parts are cured by mercury, and therefore supposed to be venereal.

Mercury, given without caution, often produces the same symptoms as rheumatism; and I have seen even such, supposed to be venereal, and the medicine continued.

Other diseases shall not only resemble the venereal in appearance, but in the mode of contamination, proving themselves to be poisons, by affecting the part of contact, and from thence producing immediate consequences similar to buboes; also remote consequences similar to the lues venerea.

As errors in forming a judgment of a disease lead to errors in the cure, it becomes almost of as much consequence to avoid a mistake in the one as in the other; for it is nearly as dangerous, in many constitutions, to give mercury where the disease is not venereal, as to omit it in those which are; for we may observe, that many of the constitutions which put on some of the venereal symptoms, when the disease is not present, are those with which mercury seldom agrees, and commonly does harm. I have seen mercury, given in a supposed venereal ulcer of the tonsils, produce a mortification of those glands, and the patient has been nearly destroyed.

When treating of the lues venerea, and giving the symptoms, and general appearances of the disease, I related some cases which appeared to be venereal, though they really were not; and I shall now refer the reader to these, as it will be unnecessary to give them again here; although, if they had not been formerly taken notice of, this would have been a very proper place.

As the diseases in question are various, and not to be reduced to any system or order that I am acquainted with, I shall content myself with relating the cases, and thereby put it in the power of others to

judge for themselves, if they should not be inclined to adopt the conclusions I have drawn from them.

On the 28th of July, 1776, a gentleman, then in the West Indies, scratched the end of his finger with a thorn. On the 31st he opened an abscess on the shoulder of a negro woman who had the yaws, and had been long subject to such abscesses in different parts of the body; and to incurable ulcerations afterwards. At the instant after the operation, he perceived a little of the matter upon the scratch, and exclaimed that he was inoculated. On the 2d of August, he amputated a boy's finger, of thirteen years of age, for a sore resembling worm-eaten wood. The scratch on his finger did not heal, but from time to time threw off whitish scales: this appearance alarmed him, and he rubbed in mercurial ointment very freely. Notwithstanding this, in the month of September, a painful inflamed tumour appeared on the second joint of the finger, which was soon followed by several others on the back of the hand, in the course of the metacarpal bone of the fore-finger. He still continued the mercurial friction, but without effect, for the tumours daily multiplied; and by the month of November extended to within a small distance of the axilla. They did not go on to suppuration at this time. About the end of November, he began to be affected with severe nocturnal pains in different parts of the body, but especially along the tibia and fibula, with frequent severe headaches, which continued to increase to an almost intolerable degree for five months, though he used mercurial friction, with decoction of sarsaparilla, every day in great quantity.

In the month of May, 1777, a scabby eruption appeared in different parts of the body, especially the legs and thighs; and the beforementioned tumours ulcerated; but this was followed by a remission of the nocturnal pains.

He never could bring on a salivation, though his mouth was constantly tender, even for months. The ulcerations became daily worse, and a voyage to England was thought the only resource. He arrived in London the 1st of August, and by the advice of Dr. William Hunter and Sir John Pringle, he began again a course of mercury and sarsaparilla, with a milk diet. I was called in, and judging that two-thirds of a grain of mercurius calcinatus, every day, was too small a dose, if it were judged to be venereal, it was ordered to be gradually increased to five grains; and he continued this course till November, when all the sores were perfectly healed.

He now discontinued the mercury, and remained free from all symptoms of the disorder, except some nodes on the tibia, and rheumatic pains on exposure to cold, until about twelve months ago, when he began to have an uneasiness in swallowing, a rawness in the throat, and a discharge of viscid mucus from that and the posterior nostrils, all of which still continue.

The following observations may be made on the above case:—

There can be little doubt that the disease was the yaws. The

yaws are a disease that resembles the venereal in several of its symptoms, as well as in the manner in which it is most commonly communicated. It differs, however, in some essential particulars. The yaws have a regular progress, after going through which, they leave the constitution in a healthy state, at least free from that disease; it being sufficient for the cure, that the patient be put in a state favourable to general health. Thus, a negro labouring under the disease must do little or no work, be kept clean, and have a better diet than usual. Under these circumstances, he commonly gets well in from four to nine months; although the unfavourable cases will continue much longer. Various medicines are given for the cure; but it is not clear that any of them do good. Mercury has considerable power over the disease, without being a specific for it. If given early, it will either check the progress of the disease, or perhaps even heal up all the sores on the skin; but nothing is gained by this, for the disease soon breaks out anew. Some practitioners of medicine in the West Indies are of opinion, that interrupting the course of the disease by mercury is productive of no other evils than those of loss of time, and an imperfect cure: others affirm that it is often the cause of what they call the bone-ach. Towards the end of the disease, it is generally allowed that mercury may be given safely, and even with advantage. It is probable the long continuance of the disease, being above fourteen months, and also the pains in the bones in the present case, were owing to the very early and free use of mercury. It may be allowable to add, that the yaws do not differ more from the venereal disease in curing themselves, than in this circumstance, that, like the small-pox, they affect none a second time.

A gentleman applied to me for the cure of chancres, seated on the attachment of the prepuce to the penis, and also on the frænum. Mercury was used chiefly by friction, in order to affect the constitution; it was also applied to the sores, in order to affect them locally. The cure of the chancres went on gradually and without interruption; and in about five weeks they were perfectly healed. He almost immediately had connection with a woman, and long before we could suppose the mercury had all got out of his constitution. In a very few days after the first connection, the prepuce began to be chopped all round on the edge of its reflection. He continued his connection, and upon its growing worse he applied to me, and I found the chops very deep, and the prepuce there so tight and sore, that he could not bring it back upon the penis. The question now was, whether this was venereal or not? The sores themselves did not appear to be so; but more was to be taken into the account than simply appearances. It was first to be considered, whether it might possibly be a return of his former complaint. This could not be the case, because the sores were not in the same parts. It was next to be questioned, was it possible for this part of the prepuce to have been contaminated at the same time with the former, and the poison

not to have come into action till now, having been prevented by the course of mercury, which had not cured the disposition? This could not be well answered, although not probable, because the poison appeared to come too soon into action after the leaving off of the medicine; for I did suppose there was still a great deal of mercury in the constitution. Was it then possible for him to have caught it from the woman? This, I supposed, could not have been the cause of these chops, whatever effect this connection might have to render them venereal hereafter; for they appeared too soon after it, especially as he had mercury in his constitution at the time, and as the parts had been accustomed to the application of venereal matter but a very little time before. Although, from all circumstances taken together, I was convinced the case was not venereal, yet an apprehension arose in his mind concerning the possibility of having given it to the lady, as he had connection after the first appearance of the sores. I was equally convinced of the impossibility of the one as of the other, therefore, desired him to rest easy on that head. He went immediately into the country, and, nothing being done for those chops, they got perfectly well. In less than a fortnight after this connection, the lady became a little indisposed with a slight fever; and a swelling came in one of her groins. I watched the progress of this swelling, which was slow, and I did not believe it to be venereal. It at last formed matter and broke, and a poultice was applied to it. Instead of ulcerating or spreading, it rather had a healing disposition, and in about six weeks it was perfectly well. While it was healing, scurfy eruptions came out on the skin, some on the face and thighs, but more especially on the hands and feet, where the cuticle peeled off. Upon the first appearance of these, I was a little staggered; but as the sore was healing, I was unwilling to give credit to the appearance, and therefore begged that nothing might be done; and they all got well.

From the general outline of these cases, one would have naturally said they were venereal; but the particular circumstances being all investigated, and the whole taken together, led me to suppose that they were not, and the event proved that to be the case.

The following case was communicated by Mr. French, of Harpur-street.

June the 9th, 1782, a gentleman applied to me for an ulcer which was seated on the glans penis, attended with excessive pain. Knowing him to be an intemperate man, and learning from himself, that during a state of intoxication he had been connected with a woman, I judged the complaint to be venereal. He was now in a feverish state, and unfit for the exhibition of mercury: I therefore prescribed for him decoction of bark, with elixir of vitriol and tinctura thebaica, proportioned to his pain. I directed him to abstain from every kind of fermented liquor; to live chiefly upon milk, and to

wash the ulcer with a liniment composed of equal parts of oil of almonds and aqua sapphirina.

About the 17th of the same month, some check having been given to the fever, the sore looking cleaner, and his pain having abated, I ordered him small doses of argentum vivum and extract of hemlock.

July the 4th, finding the mercurial course to disagree, I ordered three grains of the extract of hemlock to be taken two or three times a day, and the decoction of bark to be taken as before, with twenty drops of tinctura thebaica, which was gradually increased to sixty, at bed-time.

The ulcer had spread very much during the mercurial course, and had now destroyed half the glans penis.

October 1st, Mr. Hunter was consulted, and ordered the patient to add the powder of sarsaparilla to the decoction of bark, to take laudanum freely, and wash the sores with tinctura thebaica. Soon after beginning this course the remainder of the glans penis sloughed off; the parts gradually healed; and health was restored.

There were other symptoms in this case which deserve to be taken notice of; a considerable enlargement of the scalp on the right side of the os frontis, and on the left parietal bone, attended with excessive pain, and vibices resembling the sea-scurvy on the inside of the left tibia, both of which disappeared in the course of the cure.

Some months after, the tumor in the head returned, and several abscesses were formed which were opened, and the cranium, found carious to a great extent. On account of the pain, he has for some months past taken two hundred and forty drops of laudanum, and six grains of opium, daily. These sores healed up, and others broke out in different parts of the head, which also got well; and in June, 1785, there was only one large ulcer in the angle of the right eye.

A lady was delivered of a child on the 30th of September, 1776. The infant being weakly, and the quantity of milk in the mother's breasts abundant, it was judged proper to procure the child of a person in the neighbourhood to assist in keeping the breasts in a proper state. It is worthy of remark, that the lady kept her own child to the right breast, the stranger to the left. In about six weeks the nipple of the left breast began to inflame, and the glands of the axilla to swell. A few days after, several small ulcers were formed about the nipple, which, spreading rapidly, soon communicated and became one ulcer, and at last the whole nipple was destroyed. The tumor in the axilla subsided, and the ulcer in the breast healed in about three months from its first appearance. On inquiry, about this time the child of the stranger was found to be short-breathed; had the thrush; and died tabid, with many sores on different parts of the body. The patient now complained of shooting pains in different parts of the body, which were succeeded by an eruption on the arms, legs, and thighs, many of which became ulcers.

She was now put under a mercurial course, with a decoction of sarsaparilla. Mercury was tried in a variety of forms, in solution, in pills internally, and externally in the form of ointment. It could not be continued above a few days at a time, as it always brought on fever or purging, with extreme pain in the bowels. In this state she remained till March 26, 1779, when she was delivered of another child in a diseased state. This child was committed to the care of a wet nurse, and lived about nine weeks. The cuticle peeling off in various parts, and a scabby eruption covering the whole body. The child died.

Soon after the death of the child, the nurse complained of headach and sore throat, together with ulceration of the breasts. Various remedies were given to her, but she determined to go into a public hospital, where she was salivated, and after some months she was discharged, but not cured of the disease. The bones of the nose and palate exfoliated, and in a few months she also died tabid.

Of the various remedies tried by the lady herself, none succeeded so well as sea-bathing. About the month of May she began a course of the Lisbon diet-drink, and continued it with regularity about a month, dressing the sores with laudanum, by which treatment the sores healed up; and in September she was delivered of another child, free from external marks of disease, but very sickly; and it died in the course of the month.

About a twelvemonth after, the sores broke out again, and although mercurial dressings and internal medicines were given, remained for a twelvemonth, when they began again to heal up.

The following cases, being all derived from one stock, show as much as possible, that new poisons are rising up every day, and those very similar to the venereal in many respects, although not in all; therefore, it is the want of similarity that becomes the criterion to judge by, and not the similarity. The parents of the child who is the subject of the following history, were and are to all appearance healthy people. The child was weakly when born; and the mother having little or no milk, when it was three weeks old she gave it to a nurse whose milk was then seven months old, and was giving suck to her own child. The foster-mother allowed her own to suck the right breast, while the other sucked the left.

The nurse observed that the skin of the foster-child began to peel off; but no rawness or soreness took place, except about the anus, where it looked as if scalded. The same kind of peeling took place on the lips, but they did not appear to be sore, although the people in the country said it was the thrush. The inner surface of the mouth and tongue appeared sound. In a fortnight after her receiving the child it died, and then she allowed her own child to suck both breasts for three weeks; at the end of which she came to town to nurse a gentleman's child.

She gave suck to the second child; but after being in town about

ten or eleven days, she did not feel herself perfectly well; which made them suppose that the new mode of life, confinement in town, and probably better living, might not agree with her, and she went into the country and took the gentleman's child with her. About three or four days after she went to the country, for instance, about a fortnight after she took this child, and five weeks after the death of the first child, her left nipple, which the first nursed child had always sucked, began to be sore, so that she could not let the child suck it. This ulcer on the nipple became extremely painful; in a day or two eruptions came out on her face, and soon after all over her body, but most on her legs and thighs. They continued coming out for about a fortnight, and had at first very much the appearance of the eruptions of the small-pox, and on the third day of their eruption were attended with fever, universal uneasiness, and great pain.

Two or three days after the eruption on the skin appeared, one of the glands of the armpit began to swell, and formed matter, and was opened within a fortnight after its first appearance, and healed almost directly. Some of the eruptions increased fast, and became very broad sores, nearly of the size of a half-crown, especially on the legs and thighs, and were covered with a broad scab; many remained small, and only appeared like pimples. About a fortnight after the first appearance of the eruption, some began to die away; and in four weeks more, after this appearance, a foul ulcer attacked the left tonsil.

The surgeon in the country, from all these circumstances, finding he could not get any ground by the before-mentioned treatment, determined to give her the solution of the corrosive sublimate, of which he gave half a grain in solution night and morning; in about a week there seemed to be a stop put to the swelling of the ulcers, and the discharge to be somewhat lessened, the ulcer in the throat putting on a better appearance.

It was at this period I first saw her, which was about six weeks after the first appearance of the eruption, and a fortnight after the appearance of the ulcer in the tonsil. The eruptions were then very much as before described; but the ulcer in the tonsil was clean and healing. From the history of the case I did conceive it not to be venereal; I therefore desired that all medicines might be left off, which medicines could only have been taken for a fortnight at most, because it was after the appearance of the ulcer on the tonsil the mercury was given, which was only of a fortnight's standing when I saw her. She soon after recovered.

After being well for some time, she again applied to the surgeon in the country, an abscess having formed where the complaint first began in the breast, attended with fresh eruptions on the face.

The abscess was opened, and it healed up in a few days, and upon taking some cooling physic the eruptions disappeared. She has continued very well ever since, without any other bad effect

than the total loss of her nipple. This case was certainly understood to be venereal.

About five days after the appearance of the eruption on the nurse, the gentleman's child was taken away and given to a healthy woman, of a florid complexion, aged twenty-four years, and who had lain in with her first child eleven months when she became wet-nurse to this child. After a few days she observed eruptions on the child's head, not unlike those already described on the first nurse which it had sucked. Its mouth soon after became excoriated, so that it sucked with difficulty. After a short time those eruptions on the head became dry and peeled off, others appeared on the face, knees, and feet, but wholly unlike the former, as the first maturated, while the latter appeared only cutaneous, peeling off and leaving a circumscribed spot of a light dun colour, which continued increasing for five weeks. These eruptions continued nearly three months from their commencement, at which period the child was extremely emaciated; but no particular treatment was indicated, so no medicine was exhibited, and in a few weeks after it came to London, and got perfectly well.

The second nurse, a few days after giving suck to the child, had blotches appear on her left breast, precisely the same with those on the first nurse; with this difference only, that they were fewer in number, and attended with a greater degree of phlegmonous inflammation. They continued, and increased in size for seven or eight days; then the nipple of the same breast became ulcerated; the ulceration spreading so much as to endanger the loss of it; her thighs now became diseased, and afterwards her legs.

She suckled this child about twelve weeks. The disease seemed no longer to increase, and in twelve or fourteen days after this entirely disappeared, without her taking any medicine, except a few ounces of the decoction of the bark. The only application to the breast was unguentum simplex.

The milk at this time became so small in quantity, that they were under the necessity of providing a third wet-nurse for the child, and the second returned to the country. Her own child being weaned, she had no further occasion for the milk, and in a few days it wholly disappeared; but by way of amusing the child when peevish, she allowed it to take the nipple, which had been diseased, in its mouth; the consequence was, that in a few days this child also became diseased in like manner with the former. She now applied to an eminent surgeon for assistance, who, not being acquainted with the history, supposed it venereal, and ordered a colourless medicine, supposed, from circumstances, to be the solution of sublimate, sixteen grains to half a pint of water; the dose a table-spoonful. She took this medicine as directed, and also gave it to her husband and child; the child a tea-spoonful only at a time. While taking this medicine she got well.

The third wet-nurse, like the former, was in a short time affected,

but the blotches in this case were still fewer in number, the disease appearing to lose considerably in its power, as each fresh infection became less malignant than the former. She got well without taking any medicine.

SECTION I.

Of Diseases supposed to be Venereal, produced by transplanted Teeth.

Since the operation of transplanting teeth has been practised in London, some cases have occurred in which the venereal infection has been supposed to be communicated in this way, and they have been treated accordingly; nor has the method of cure tended to weaken the suspicion: yet when all the circumstances attending them, both in the mode of catching the disease, and in the cure when they have been treated as venereal, are considered, there is something in them all which is not exactly similar to the usual appearance of the venereal disease when caught in the common way; especially too when it is considered that some of the cases were not treated as venereal, and yet were cured, and therefore the cures of the others which appeared to be from mercury are not clear proofs of their having been venereal.*

I believe that I have seen most, if not all the cases of this kind which have occurred, and have attended some of them. In all of them the time of local affection, after the insertion of the tooth, hath been almost regularly a month, which is too long for the venereal to take effect at a medium; and where they have produced constitutional symptoms, those again have either followed the local too close for the venereal, or too regular as to time. But it may be advanced, that a disease has been produced probably as bad in its consequences as the venereal. That a disease has been formed in this way is certain.

The first case of this kind which came under my care was a lady who had one of the bicuspidati transplanted. The transplanted tooth fastened very well. About a month after, she danced till five or six o'clock in the morning, caught cold, and had a fever in consequence,

* It is to be remarked here that I do not, in the present case, lay any stress at all on my opinion of the lues venerea not having the power of contamination; and I believe we must allow, if the disease were venereal, it must have been contracted from a lues venerea in the person from whom the tooth was taken; for chancres are not common in the mouth, and they would be seen on examination. I believe few discharges similar to gonorrhœa take place there.

which lasted near six weeks. In this time ulceration in the gum and jaw took place, though it was then not known. And when she was beginning to recover, it was found that not only the gum and socket of this tooth were diseased, but also those of the teeth next to it. The two teeth were taken out, and the sockets of both afterwards exfoliated; but the parts were very backward in healing.

This backwardness gave rise to various opinions, the principal of which was, that it was venereal. In the mean time a rising appeared upon one of the legs, which was of the indolent node kind; this was also suspected by some to be venereal, or rather was a corroborating circumstance of the former opinion; but I gave it as my opinion that it was not. I desired she might go to the sea and bathe, which she did, and got perfectly well, both in the jaw and leg, and has continued so ever since.

The second case of this kind I have seen was also in a young lady: the transplanted tooth fastened extremely well, and continued so for about a month, when the gum began to ulcerate, leaving the tooth and socket bare. The ulcer continued, and blotches appeared upon the skin, and ulcers also in the throat. The disease was treated as venereal, the complaints gave way to this course, but they recurred several times after very severe courses of mercury: however, she at last got well.

The only observation I can make on this case is, that the symptoms recurred after continued courses of mercury, much oftener than is usual in venereal cases; and I had my suspicions all along that it was scrofulous.

The third case was of a gentleman, where the transplanted tooth remained, without giving the least disturbance, for about a month, when the edge of the gum began to ulcerate, and the ulceration went on till the tooth dropped out. Some time after, spots appeared almost every where on the skin; they had not the truly venereal appearance, but were redder, or more transparent, and more circumscribed. He had also a tendency to a hectic fever, such as restlessness, want of sleep, loss of appetite, and headach. After trying several things, and not finding relief, he was put under a course of mercury, and all disease disappeared according to the common course of the cure of the venereal disease, and we thought him well; but some time after, the same appearances returned, with the addition of swelling in the bones of the metacarpus. He was now put under another course of mercury more severe than the former, and in the usual time all the symptoms again disappeared. Several months after, the same eruptions came out again, but not in so great a degree as before, and without any other attendant symptoms. He a third time took mercury, but it was only ten grains of corrosive sublimate in the whole; and he got quite well. The time between his first taking mercury, and his being cured, was a space of three years.

Query: Could this case be venereal? The two first courses of mer-

cury removing the eruptions, would seem to prove it was; but the third course also removing them, which consisted of only ten grains of corrosive sublimate, would seem to prove that it could not be venereal; for if it had, the appearances which returned after the second course, in which a considerable quantity of mercury had been given, would not have yielded to ten grains.

The fourth case was that of a young lady who had a tooth transplanted, and about the same distance of time after it, as mentioned in the former cases, the gum began to ulcerate, and the ulceration was making considerable progress. The surgeon who was first consulted desired mercury to be given immediately. I was afterwards desired to see her, and advised that mercury should not be had recourse to, that we might ascertain the nature of the case; for if she took mercury and got well, it would be adding one more to the number of the supposed venereal cases arising from such a cause. I recommended drawing the tooth, that we might see what effects would be produced by the removal of the first cause.

The tooth was drawn, and the gum healed up as fast as any common ulcer, and has ever since continued well.

This case requires no comment. I may, however, be allowed to observe, that if the lady had gone through a course of mercury, she would have, in all probability, also got well; for the tooth, in the time necessary for completing the course of mercury, would have dropped out; and if this had really happened, we need not hesitate in affirming, that it would have been considered as venereal.

The fifth case was that of a young lady, eighteen years of age, who had one of the incisores transplanted, which fastened very well; but six or seven weeks after the operation, an ulceration of the gum took place, the tooth was immediately ordered to be removed, and the bark was given without any other medicine, and she got well in a few weeks.

The sixth case was that of a gentleman, aged twenty-three, a native of one of the West India Islands, who had the two front incisores transplanted; and about the same time after the operation, as in the former cases, an ulceration of the gums took place, which increased to a very great degree, and the edges of the gum sloughed off. An eminent surgeon was consulted, who ordered the bark, and the patient, without taking any other medicine, got well, in nearly the same time as the ladies, in cases four and five, who had the teeth taken out. The gums recovered themselves perfectly, but were considerably shorter.

If we take some of the above cases, and consider them as they at first appeared, we shall almost pronounce them to have been venereal. If we take the others, we shall pronounce them absolutely not to be venereal; and if we consider every circumstance relating to those probably venereal, we shall, as far as reasoning goes, conclude that they were not venereal. The first case that appeared at

the time to be venereal is the second of those before related; but as I did not attend the lady through the whole of the cure, I can say less upon it; she certainly had the symptoms recur oftener than they do in venereal cases in common, where the disease is attended with no ambiguity, and took more than the usual quantity of mercury; there is therefore in this case something not clearly understood, because it does not exactly agree with venereal cases in general in all its parts.

The fourth case was similar in its recurring, and in the quantity of mercury that appeared to be necessary to remove the symptoms.

The most serious effects of transplanting a tooth happened to a young lady, and are related in the Medical Transactions, by the late Sir William Watson.

The dentist being alarmed at the first appearance, desired me to visit her upon his own account. The edge of the gum had just then begun to ulcerate. As I did not know well what was best to be done, I desired him to make a strong solution of corrosive sublimate, and let the mouth be often washed with it, and also to apply some lint, soaked in it, to the part; but as this did not stop its progress, she applied to Sir William Watson, to whose account of the case I must refer the reader, and from that account I must take my materials to reason upon. However, I may remark, that the case appears to have been supposed at last to have been venereal, whatever might have been the first opinion, and for the two following reasons: first, from the mode of catching the disease being possible; and secondly, from its not giving way to medicines, which are of no service in the venereal disease; and this opinion appears to have been confirmed by the disease giving way to mercury. But the case itself, abstracted from the mode of catching it, and even the mode of cure, does not perfectly agree with the common attending circumstances of the venereal; nor has that attention been paid to the necessary circumstances sufficient to determine it to be venereal.

The progress of the ulceration in the mouth, which was the first symptom, was by much too rapid for the venereal ulcer in common; for it must be considered, if venereal, simply as a chancre, or local affection.

Now let us trace the progress of the disease into the constitution. "About this time," viz. when the local disease was making such rapid progress, "blotches appeared in her face, neck, and various parts of the body; several of these became ulcerated painful sores."* Now this date of the constitutional affections following the local is by much too soon to be venereal; we know if a lues venerea arises

* Medical Transactions, vol. 3, page 328.

either from a gonorrhœa or chancre, it does not appear in common till about six weeks, often much later, but seldom sooner. I do not count much upon the circumstance of there being no swelling of the lymphatic glands of the neck, forming buboes, as that is not a constant symptom attending the venereal matter getting into the circulation, although it should be allowed to have some weight, especially where other circumstances do not perfectly agree. The appearances from the constitution, when they did take place, were much more violent and rapid in their progress than any venereal blotches I ever saw: we know in the lues venerea that they are months before they arrive at the stage of scabs; also the pain attending those sores did not in the least correspond with the lues venerea. Venereal blotches hardly give any sensation, or at least very little; but after all, mercury cured this disease, whatever it was: twenty-eight grains of calomel, made into fourteen pills, was taken, probably, in ten or twelve days; for it was directed she should take one or two each day, as the bowels would allow; but although tinctura thebäica was given, they purged so much as made it necessary to give no more in this way; but although so little mercury was taken, and had also run off considerably by the bowels, yet "the ulceration of her mouth and cheeks did not spread, but were less painful and of a milder appearance; the blotches in her face and body grew paler, and such of them as had ulcerated healed apace, and no new ones appeared. Unguent. cœruleum fortius" was therefore directed "to be well rubbed into her legs and thighs twice a-day, in small doses," lest it should be determined to the bowels. "In about ten or twelve days her griping and purging returned with violence, the ointment was therefore discontinued; at this time the blotches were all gone; the ulceration in her face and body were completely healed, and those of her mouth nearly so."

The only remark I have to make on the cure is, that the quantity of mercury was not sufficient to cure chancres on the penis, making such rapid progress as those did in her mouth; nor could the same quantity of mercury cure venereal sores on the skin, which had made such rapid progress as they did in this case; and if we take in the effect this had upon her health, with the termination of the whole, I think we should pronounce it not venereal; for the specific circumstances, if it was venereal, were just as uncommon as the mode of catching it.

Many of these cases, suspected of being venereal, I have seen occasionally; and although the patients recovered while under a course of mercury, yet on account of the want of attention in the practitioners to the very circumstances that would decide the disease to be either venereal or not, I pass them over unnoticed.

After having considered the cases themselves of those who had the teeth transplanted, let us also consider the persons from whom the teeth were taken; for I cannot help thinking that this will throw some light upon the subject. Let me suppose that the young girls

from whom the teeth were taken really had the lues venerea, and that the teeth were of course also infected, which is a supposition most unfavourable to my real opinion, it appears to me, that even in this case there can be no difference between the gums of the girl from whom the tooth was taken, and the gums of the person who received it: if the ulceration took place in the last from contamination, would not the socket in the girl from whom the tooth was taken likewise have ulcerated? But this did not happen in any of them. I have here supposed the teeth capable of being contaminated; although I believe we have never yet seen them have this disease primarily, but only in consequence of its breaking out somewhere else, in the mouth, throat, or nose, and spreading to them; but still, if they are capable of having the disease, and communicating it to others, it becomes very extraordinary that those people should have hit upon the few teeth that probably were ever so contaminated.

When we consider that the girls from whom the teeth were taken had not the least appearance of disease at the time, and had none when the disease broke out in the person who received the teeth, it becomes strange that it should break out in the receivers, and not in the giver.

It is also singular, that an ambiguity should follow this disease in all its stages; in the mode of its being caught, the appearance, and the cure.

Let us sum up all the arguments in favour of the disease not being venereal. First; two patients, whose cases were similar to the others in their origin, recovered without medicine.

Secondly; they who seemed to be cured by mercury, had not a treatment exactly similar to those who were indisputably poxed.

Thirdly; I consider it as impossible for parts to have the power of contaminating, which are not themselves diseased.

Fourthly; the parts contaminating were never known to have been contaminated themselves.

But it must be nearly the same thing to those who want to have teeth transplanted, whether my reasoning is just or not; for a disease in consequence of the operation most certainly has taken place; and in some cases this has been worse, or cured with more difficulty, than the lues venerea in common; and whatever the disease may be, I yet know of no mode of prevention, except the drawing of the tooth early, and that has been tried in one case only, and in that case was successful.

From this account many may be deterred from having this operation performed; in that light no evil can arise, except the mortification which arises from a reflection, that no relief is to be had in cases of bad teeth: but it is to be remembered, that this is a publication of all the unsuccessful cases, which is the very reverse of what is generally practised in medical books; and they are mentioned upon no other

principle than that the disease, when it happens, may not be improperly managed.

It may be asked, what is this disease? There is more difficulty in answering what it is, than what it is not. I should say that a sound tooth transplanted may occasion such an irritation as shall produce a species of disease which may be followed by the local complaints above mentioned.

I cannot conclude without intimating, that undescribed diseases, resembling the venereal, are very numerous; and that what I have said is rather to be considered as hints for others to prosecute this inquiry further, than as a complete account of the subject.

THE END.

Fig. 1.

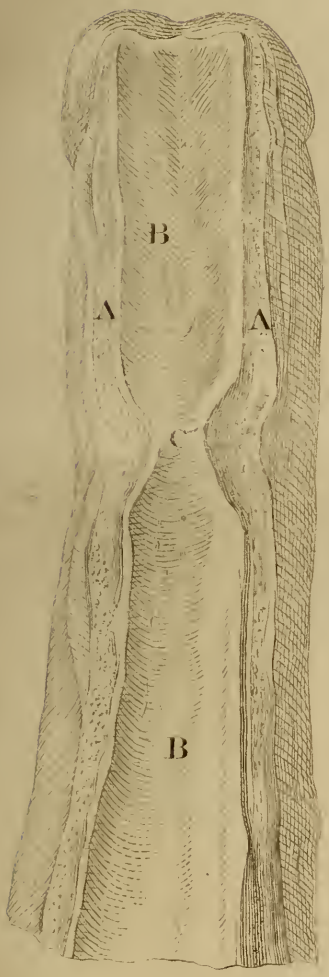


Fig. 2.

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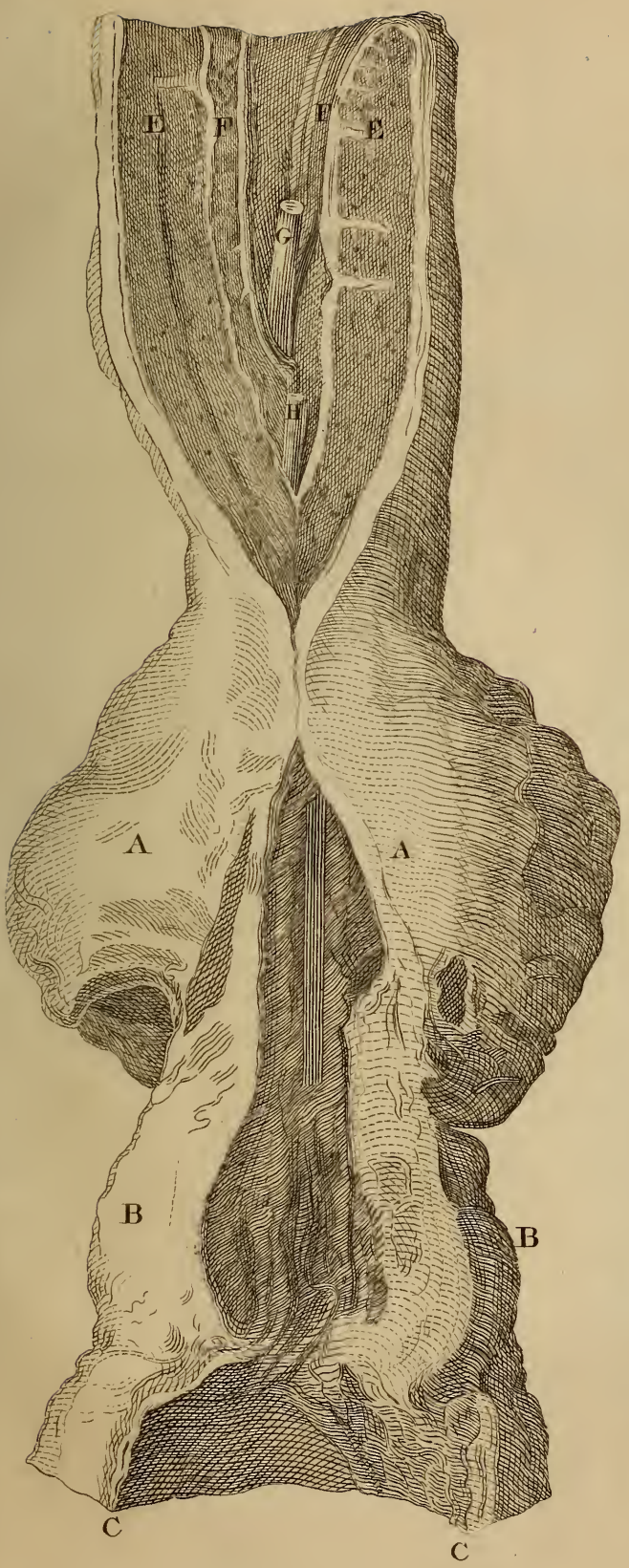

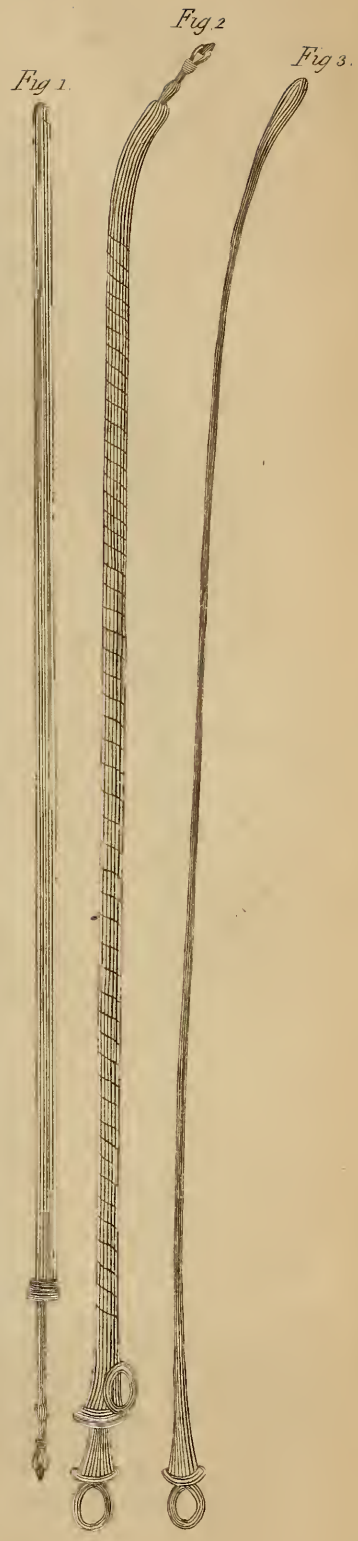

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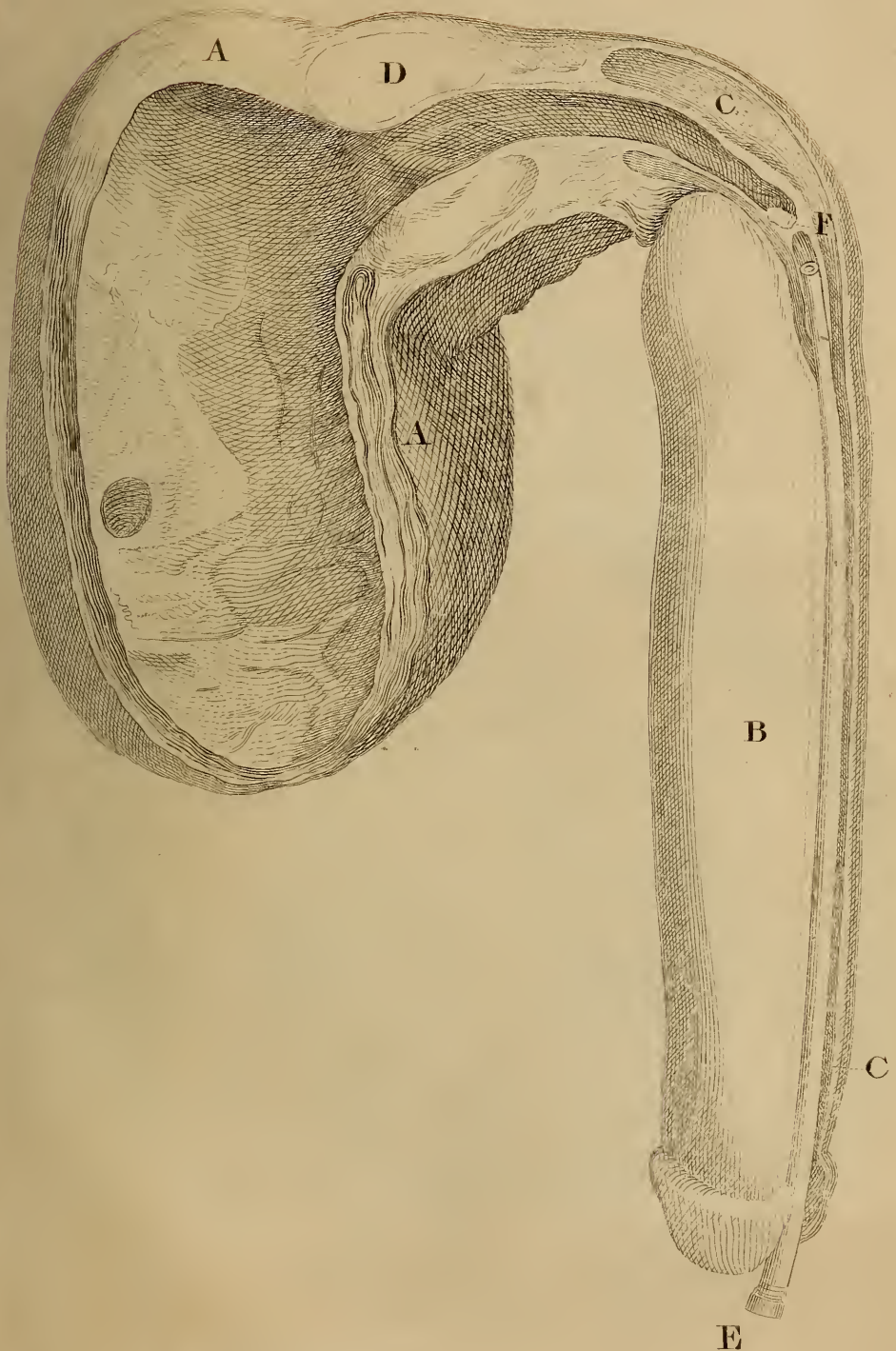

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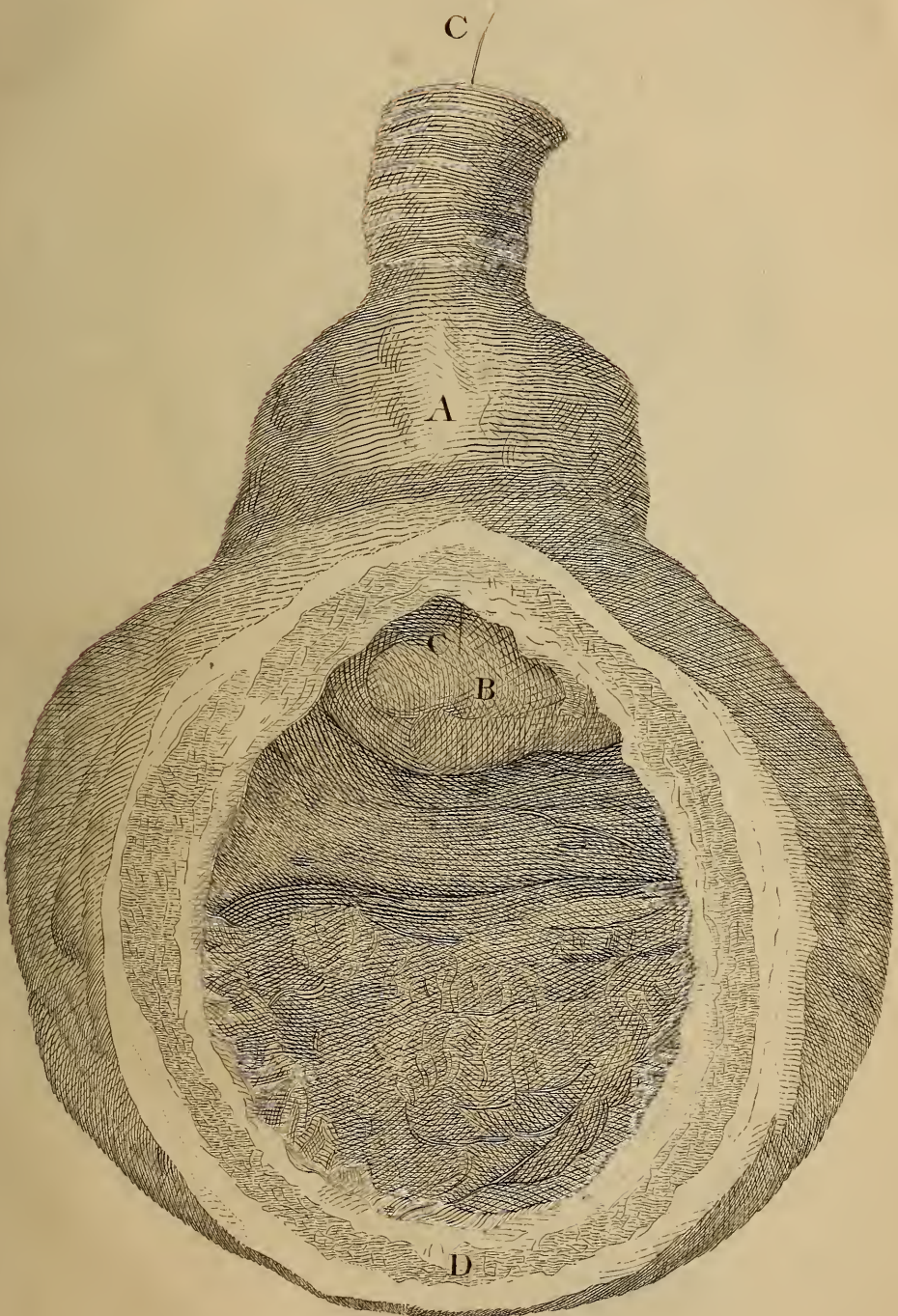

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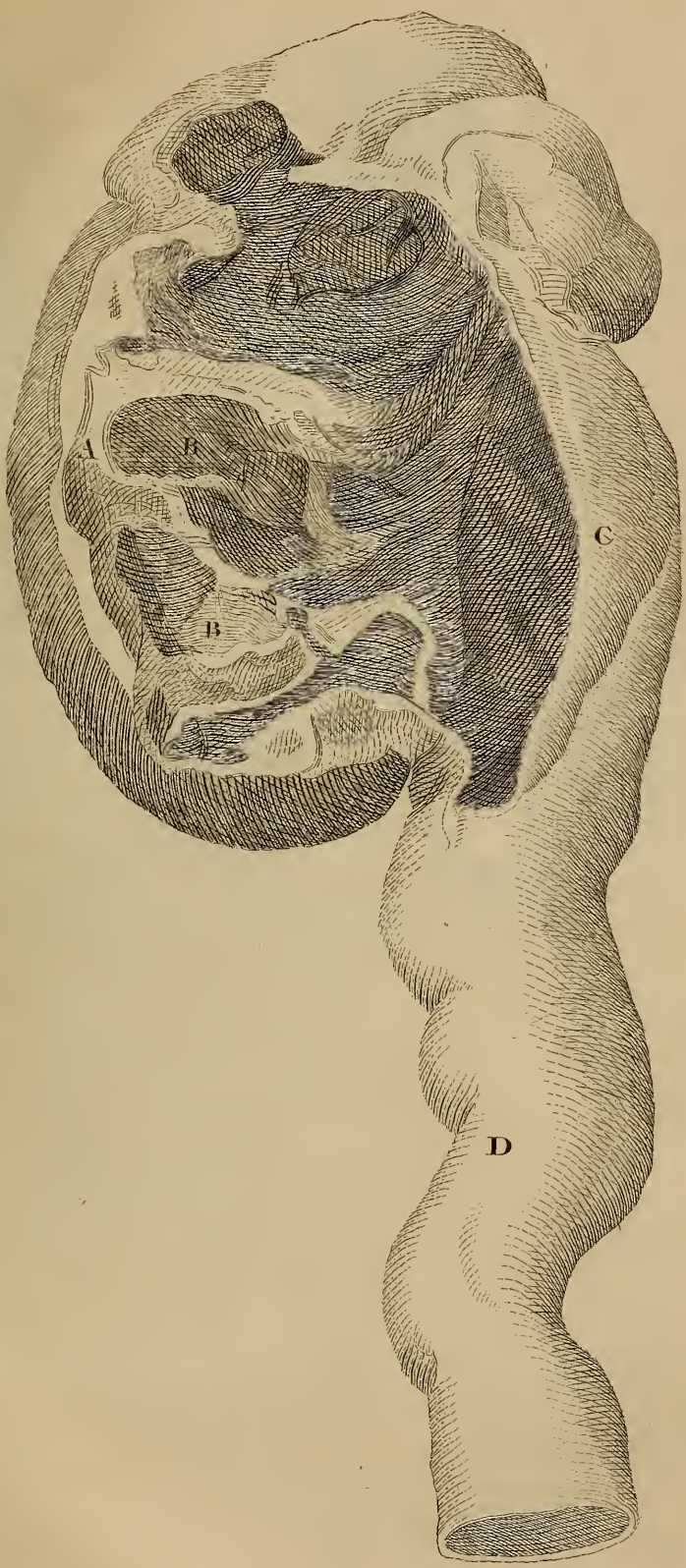

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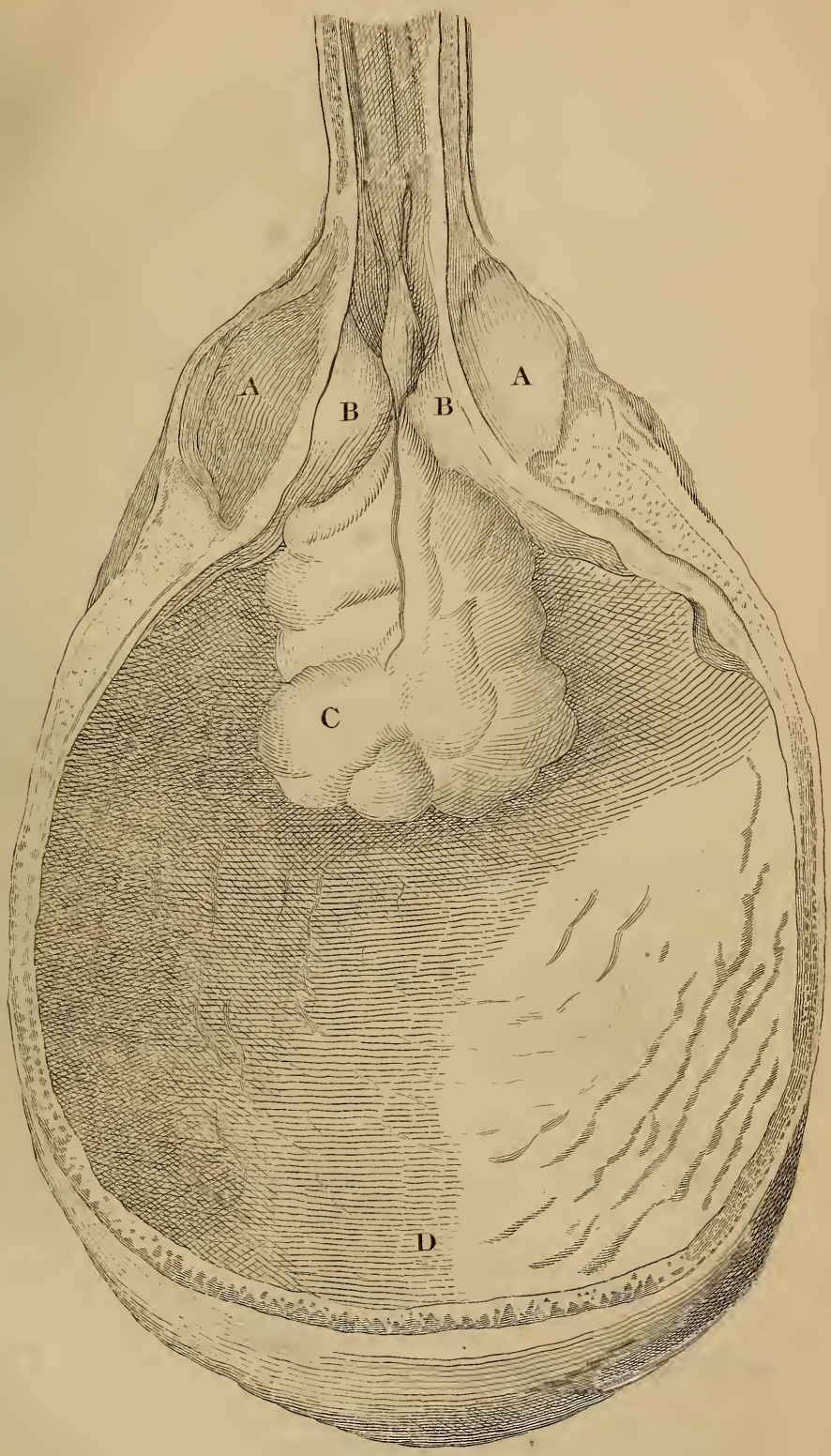

W.Bell, del.

Hooker, Sc.

EXPLANATION OF THE PLATES.

PLATE I.

FIGURE I.

THE penis, slit open, showing a stricture in the urethra, about two inches from the glans. The stricture is but slight.

AA. The cut surface of the corpus spongiosum urethræ.
BB. The canal of the urethra, in which may be observed the orifices of the lacunæ.
C. The stricture.

FIGURE II.

The penis slit open for about three inches to shew the lacunæ, which become occasionally an obstruction to the passage of the bougie.

AA. The corpus spongiosum urethræ.
BB. The internal surface of the canal of the urethra, pointing to the orifice of two of the lacunæ.
C. A bristle introduced into a lacuna.
D. The end of the bougie introduced into the remaining part of the urethra.

PLATE II.

THE urethra opened in two different places, one before the stricture, the other behind: the one before, is through the body of the penis; the other behind, is upon the anterior surface of the membraneous part, and a bougie passes from the one opening to the other.

AA. The crura penis and bulbous part of the urethra all blended together by inflammation and suppuration, which has taken place in many parts.
BB. The prostate gland in a diseased state.
CC. The cut edges of the bladder.
D. The urethra behind the stricture very much enlarged; irregular on the surface, in consequence of ulceration.
EE. The cut surface of the corpus cavernosum penis.
FF. The cut surface of the corpus spongiosum urethræ.
GG. The bougie passing from the sound to the unsound part of the urethra.
H. A small bougie in the new passage.
Two canulas, for applying caustic to strictures in the urethra.

FIGURE I.

A straight silver canula, with the plug projecting beyond the termination of the canula, making a rounded end; at the other end of the wire is a small portcrayon, in which is represented a piece of caustic.

FIGURE II.

A flexible canula for applying the caustic to strictures in the bend of the urethra. The wire, with the small portcrayon, is pushed out beyond its end.

FIGURE III.

A piece of silver wire, with the plug at the end, to be introduced into the canula, as in Figure I.

PLATE III.

The bladder and penis of a person who died of a mortification of the bladder, in consequence of a stricture and stone in the urethra. In this plate, not only the stricture is represented, but the thickened coats and fasciculated inner surface of the bladder; as also the small stone which acted as a valve, or plug; besides which, a canula is introduced from the glans down to the stricture, showing the practicability of destroying it with caustic.

AA. The bladder, cut open, showing its coats a little thickened, and its inner surface fasciculated.
B. The body of the penis.
CC. The corpus spongiosum urethræ, cut open through its whole length, exposing the urethra.
D. The prostate gland divided.
E. A silver canula introduced into the urethra, through which the caustic is passed on the stricture.
F. Points out the stricture, with the stone laying above, so as entirely to prevent the passage of urine.

PLATE IV.

An enlarged prostate gland, particularly the valvular process, which has increased inwards, into the bladder, in form of a tumour, in consequence of which the water passed with difficulty, which became the cause of the increased thickness of the bladder.

A. The prostate gland.
B. The projecting part passing into the cavity of the bladder.
CC. A bristle in the urethra, to show it is above this tumour.
D. The cut edge of the bladder, which shows its increased thickness.*

PLATE V.

A kidney, whose ureter, pelvis, and infundibula, are very considerably enlarged in consequence of a stricture in the urethra.

A. The substance of the kidney, which is become very thin.
BB. The infundibula much enlarged.
C. The pelvis very much enlarged.
D. The ureter increased more than ten times its natural size.

* The preparation, from which this drawing was made, I was favoured with by Mr. Gunning, and which is in his possession.

PLATE VI.

The valvular part of the bladder so increased, as to form a considerable tumour, projecting into the cavity of the bladder. The prostate is also enlarged. This tumour had been the occasion of several severe suppressions of urine, and had often been the cause of a failure in drawing off the water with the catheter, by that instrument, most probably, passing into its substance so deep as to hinder the urine entering its openings. The dark line, passing along the tumour from the urethra, was probably made by this means, but now collapsed.

AA. The cut surface of the prostate gland.
BB. The inner sides of the prostate gland projecting inwards.
C. The tumour.
D. The cavity of the bladder.

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NOTE.—*The letter* C *denotes that the article referred to is in the Commentary.*

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